

PROCEEDINGS OF THE LINNEAN SOCIETY OF LONDON

and Session (1939-40)

Part 4

ANNIVERSARY MEETING

24 May 1940

Mr. J. RAMSBOTTOM, O.B.E., M.A., Dr.Sc., President,
in the Chair

The Proceedings of the previous meeting, held on Thursday, May 1940, having been circulated, were taken as read and affirmed.

A list of names of those who had made gifts to the Library since the previous meeting was read and laid on the table.

The following Fellow signed the Obligation in the Book of the Charter and Bye-Laws and was admitted :—Francis Charles Fraser.

A certificate of recommendation of the following candidate for Fellowship was read :—For the second time, in favour of James Inch and Colin Fraser Symington; for the first time, in favour of H. Drysdale Woodcock, K.C.

The Treasurer presented his Financial Report and the accounts of the Society, duly audited, for the year 1939-40. On a motion by Sir ARTHUR W. HILL, K.C.M.G., F.R.S., seconded by Dr. E. M. DELF, the Report and Statement of accounts were adopted.

The Bye-Laws regulating the Election of Council and Officers having been read by the Assistant Secretary, the PRESIDENT declared the Ballot for Council and Officers to be open, and voting began. The Ballot for Council was closed at 6.0 p.m. and for Officers at 6.0 p.m.

Meanwhile the Librarian and Assistant Secretary presented Report.

LIST OF THE SOCIETY.—Since the last Anniversary Meeting the Society has lost forty-six members. The detailed statement is as follows :—

18 FELLOWS BY DEATH :—Mr. Charles Horton Bestow, Col. Charles John Bond, C.M.G., Mr. Edward Ashdown, Bunyard, Dame Maria M. Ogilvie Gordon, D.B.E., Col. Conrad Theodore Green, Dr. Robert William Theodore Gunther, Mr. Joseph Alfred Hill, Mr. Theodore Edward James, Col. Henry Halero Johnston, C.B.E., C.B.E., Dr. Theodora Lisle Pranker, Mr. Paul Rosenheim, Dr. Ernest Justus Schwartz, Mr. Charles Davy Soar, Mr. Arthur Robert Thompson, Prof. Robert Scott Troup, C.M.G., C.I.E., Principal Howard Albert Trow, Mr. Fred Turner, Dr. Thomas William Woodhead.

1 FOREIGN MEMBER BY DEATH :—Eduard Fischer.

1 ASSOCIATE BY DEATH :—Harold Stuart Thompson.

22 FELLOWS BY WITHDRAWAL :—Mr. Archibald Joseph Brooks, Mr. Frederick Hugh Capron, Dr. Mary Margaret Chattaway, Mr. Edward Clement, Dr. Walter Edward Collinge, Dr. Hugh Bamford Cott, Dr. William Alfred Cunningham, Mr. Morley Thomas Dawe, O.B.E., Mr. Thomas Alfred Dymes, Mr. Raymond Alfred Finlayson, Dr. Violet Margaret Grubb, Prof. T. G. Hill, Prof. Ernest William MacBride, Dr. William McRae, Miss Isabella H. Martin, Miss Leonore Jeffrey Rintoul, Mr. R. M. Row, Dr. Frances Marion Lina Sheffield, Mr. William Southworth, Mrs. Ruth Mary Tristram, Dr. Walter Lowry Waterhouse, Mr. Arthur Hugh Wood.

In addition 11 other Fellows have tendered withdrawal of which for the present the Council has delayed acceptance.

4 FELLOWS BY REMOVAL :—Mrs. Cora Brooking Hodson, Mrs. Margaret Joan Salmon, Mr. Chintaman Mahad-Tembé, Dr. Hirenda Kumar Nandi.

During the Session 2 Foreign Members and 16 Fellows have been elected. Of the 16 Fellows elected, 13 have qualified. 2 Fellows have qualified who were elected during the Session 1938-39.

The present number on the List of Fellows is 677, with 3 Fellows elected, but not yet qualified.

LIBRARY.—Between 1 May 1939 and 30 April 1940 10 books have been purchased, and 24 books, 443 parts of periodical publications and 105 reprints have been presented. During the same period the number of volumes bound was 53. The number of volumes borrowed by Fellows and Associates

520, and by the National Central Library 175. On the other hand, 3 volumes were borrowed from the Science Library, the use of Fellows, as well as several through the National Central Library. 323 signatures were recorded in the Library visitors' book.

LINNAEAN COLLECTIONS—Since the removal of the collections to the care of H.G. The Duke of Bedford in April 1919, two visits of inspection, in July and September 1939, have been made, when the general condition of the cases was found to be very good, with no signs of dampness. On the latter occasion many of the cases containing the Insecta were examined, when the specimens were found to be in excellent condition—only a few minor breakages being noticed.

At the conclusion of this report the PRESIDENT appointed H. N. Ridley, C.M.G., F.R.S., Mr. H. W. Pugsley and D. M. Reid as Scrutineers of the Ballot.

In handing the Crisp Award to Mr. D. J. SCOURFIELD, F.R.S., the President said :—

MR. SCOURFIELD, In the history of British science there have always been men, who, though mainly occupied in other work, have been curious in natural history. For over a quarter of a century I have known you as an ardent naturalist, knowledgeable in the field and skilled with the microscope. You have been a keen naturalist—one of the lynx-eyed few—you devoted yourself unremittingly since your retirement from the University to the study of Zoology, in particular the Entomostraca, and other microscopic aquatic organisms were not neglected, even though they might be Chytridiales. Your work also on the fossils of Rhynie Chert is well known.

The Crisp Award is 'for the best paper dealing with microscopical research by a Fellow published by the Society since the previous award'. The paper for which the award is made is that on the oldest known fossil insect *Rhyniella praecursor*, which sums up the patient work of fifteen years. It is very largely due to the careful technique you elaborated by which thousands of fragments could be examined and studied that such convincing results were obtained.

In handing you this Award on behalf of the Fellows of The Linnean Society of London for a special piece of research, I take the opportunity of expressing my own personal appreciation of the splendid work you have done over practically the whole field of natural history, with an unobtrusive willingness to share your delights with others.

Mr. Scourfield expressed his great appreciation of the honour conferred upon him.

In handing the Linnean Gold Medal to Sir ARTHUR SMITH WOODWARD, F.R.S., the PRESIDENT addressed him as follows:—

Sir ARTHUR SMITH WOODWARD, You, Sir, are well aware of the universal regard in which the Linnean Medal is held and of the care with which the Council makes its choice of recipient—an eminent biologist—as an expression of the Society's estimate of his services to science. The fifty-three names of our Linnean medallists are, in themselves, sufficient testimony. Among the many honours you have received from scientific bodies both in this country and in other lands possibly, therefore, few will have given you more pleasure than this, our highest award.

In making its choice the Council has had in mind mainly your work on fossil fishes. Zoologists, in common with Geologists, regard your 'Catalogue of the Fossil Fishes of the British Museum (Natural History)' as a classic. Like so many of the great monographs published by that institution it is not merely a catalogue, but a comprehensive and original treatise of the whole subject. The first volume was published in 1889, the fourth in 1901. It is safe to say that no work on fossil fishes can be done today without consulting, and without quoting the Catalogue.

We owe also to you a long series of monographs and papers on the subject on which you have been a recognized authority for half a century.

Another side of your activities, and one which brought your name before a wider public, was the description of the Piltdown skull, *Eoanthropus dawsoni*. The controversies at that time were by no means without heat, but you held to your views, which later observations have wholly vindicated.

Though not engaged in academic work you have always borne in mind the needs of students, as witness your 'Outline of Vertebrate Palaeontology for students of Zoology' 1898, and your recent translation and revision of Zittel's 'Palaeontology'.

The Council had in mind also your former official position as Keeper of Geology of the British Museum from 1901 to 1924, during which period you greatly influenced the study of Palaeontology in general.

In spite of heavy official duties you have played a very active part in the work of several scientific societies, a part not only valuable for the wide scope of your scientific interest but also for the aid you have given in the conduct of affairs. We of the Linnean Society have benefited in both these respects, and we recall with pleasure the fact that you were our President from 1919 to 1923.

in presenting you with this medal on behalf of the Fellows of the Linnean Society of London, I wish to express my own satisfaction that it should have fallen to my lot to hand it to a former colleague, one whose scientific attainments I have always respected.

In reply, Sir ARTHUR SMITH WOODWARD expressed his profound appreciation of the honour that had been conferred on him.

The PRESIDENT then spoke of the welfare of the Society as follows :—

We meet at a time when all that we value in life, even life itself, is threatened. Warfare, as such, is no concern of this Society; its conduct is in the hands of those trained for the task, and we tender to them and those serving under them our ready confidence and our heartfelt gratitude. Whether the struggle be long or short, Man, if he is to remain worthy of the name, must be free—free in body, in mind, and in soul.

When you honoured me by electing me President three years ago the Society had recovered from the financial slump of 1931, and all seemed set fair. My first Address to you was on the occasion of our 150th Anniversary. The celebrations were on a much more elaborate scale than had been contemplated, and we had the satisfaction of having demonstrated to us in no uncertain way the esteem and affection which the Linnean Society of London is held both at home and overseas.

Many of us, I think with reason, had the feeling that we were at the beginning of a period which, if we acted with a little boldness and proper understanding, might be the most successful in the long history of our Society, and of great benefit to those studies with which we are especially concerned. For myself I was strengthened in this belief by my remarks of our overseas guests.

But I ended my Address with a statement that, regarding Linnaean collections as a trust, the Council had taken steps to have them removed to a place of safety in the event of war. It seemed remote, but my friend Professor B. Němec brought home to many of us in some remarks he made at our meeting that one country at least was aware of the danger and prepared to face it.

Before we met again that danger had shown itself clearly even to the blindest and we had had the Munich 'Agreement'. The Officers of the Society, acting on the lines decided on by Council, had special boxes made to contain the Linnaean Collections, and these were about to be loaded

in the quadrangle ready to be moved when news was received that Czecho-Slovakia had nobly sacrificed herself in the cause and hope of peace.

We thus began the next session in a spirit different indeed from that in which we had ended the previous one : we had the feeling of relief, but of uncertainty : the Linnaean Collections, which are the Mecca of every botanical systematist and many zoologists, were not in their accustomed place, but stacked in an inner room, and rendered temporarily inaccessible. This feeling of uncertainty had its effect upon the Society, for many who would have sought admission were reluctant to increase their commitments, and many Fellows had to reconsider their financial position. So far as the Society was concerned we had to dig ourselves in.

Again the recess was a time of anxiety. Before we reasssembled our country was at war. Your Council had given a free hand to the Officers who, after much earnest consideration, settled on a policy which received unanimous and helpful support from the Council as a whole. Though we were informed that most Societies were closing down and that there was to be a general exodus, it was decided that it was not only in the best interests of the Society but also of biological sciences in general that we should remain in Burlington House on a policy which was fully endorsed by Fellows. We were not blind to the risks we were then taking ; we are not blind to the present risks. But I trust that no matter what happens our present policy shall be continued.

One matter which concerns the Linnean Society in common with other possessors of valuable specimens and manuscripts has been brought prominently to our notice by the abominable ruthlessness of modern warfare. We have moved the Linnaean Collections, the Smithian Herbarium and certain other irreplaceable belongings ; we have taken what Air Raids Precautions seem called for. These are treasures we hold in trust not only for our contemporaries, but for posterity. We have taken all reasonable care for their safety : but what if they should meet with disaster ? During the time the collections have been away abundant evidence has been given of the difficulties which arise when the Linnaean Herbarium and the Insect Collections cannot be consulted. The Society has the negatives of photographs taken at various times of numerous specimens. Would it not be advisable to have photographs of the whole of the specimens taken under botanical or zoological supervision ? Prints could be sold to anyone and complete sets kept in widely dispersed places : or it may be that reproductions could be published. It would be advisable also to photograph all the types in the Smithian

barium. There would be no point in publishing these, records that can be preserved in safety would be available. The problem of manuscripts should also be considered. Would not be wise to have microfilms or photostats of the Linnaean correspondence and all important unpublished manuscripts the Society's possession? These again could be distributed. Thus may we gather honey from the weed and make a moral 'the devil himself'.

If it should be that misfortune come upon us we need have regrets. We are carrying on and in so doing are able to help numerous small societies to do the same. Our rooms have been constantly in use during the past session and we have earned the gratitude not only of our own Fellows, but of a very wide circle indeed for being the means of enabling many to turn to aspects of mind more beneficial and more productive than those of anger and fear.

In so 'mothering'—if I may use the term—other smaller societies I feel that we are doing something which will be of mutual benefit. There are numerous Societies devoted to special aspects of biology. It is good for us to have close touch with these societies, for otherwise we are liable not to give these subjects so much to the fore as is necessary for the general welfare of biology. Naturally specialists wish to present their results to and discuss them with those working along similar lines. But it is obvious that such specialization of subject and audience is likely to act detrimentally to the furtherance of that subject generally unless it be one that happens to be popular for the time being. It is important that the results obtained should be absorbed into general biology: on the other hand, it is beneficial to a specialist in other groups, for they often are able to give useful analogies and make suggestions for further research. Time and again this has happened in our discussions, and there can be no doubt that it is mutually advantageous to the specialist and general biology to have discussions which may cover wide fields.

Perhaps there will be no objection to the use of the word 'mothering' in connection with Natural History Societies. At our 150th Anniversary Meetings we were able to show that we regarded them as workers in the same field. Many prominent Fellows of our Society are keenly interested in their local Natural History Society. I think it would be all the good if we encouraged the idea that election to The Linnean Society of London should be the hall-mark of excellence in the study of Natural History. If this were so we could continue to have that leaven of the amateur which is necessary to the well-being of the Society. Amateurs
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were, in the past, the very backbone of British biology it would be a sad blow to the democracy of science, even to science itself, if it were ever to become regarded as a domain reserved for the professional worker. There has been far more than the usual number of resignations during the past year. My term of office in this respect has been a great disappointment. Instead of increase in the number of Fellows there has been decrease and my successor in the chair probably does not start at the hollow of the curve. Long before his normal time for retirement comes I devoutly trust that he will have the pleasure of remarking upon the fact that the hollow is well passed.

The retirements this year have been due, almost without exception, to financial circumstances. Your Council more than once have discussed ways of retaining such Fellows; your Officers have had the problem constantly before them. We have found no real way out of the difficulty for there are bye-laws and obligations to other Fellows. I would call your attention to the Goodenough Fund as one worthy of your consideration. 'The object of the Goodenough Fund is to enable the Council to pay the Admission Fee or Annual Contribution of one or more Fellows of the Society who are deserving of this assistance. The Fund is administered by the President, the Treasurer, and the Secretaries. The details of distribution are not published.' At present the Fund stands at £260, approximately, which enables the Trustees of the Fund to help with the subscriptions or pay the subscription of all too few of our less fortunate Fellows. I must admit to a feeling of annoyance—even of anger—when a Fellow of many years standing finds himself unable to pay his dues and there is no way of retaining him on our list. It is certainly not the time to appeal for Funds, but it may not be out of place to suggest that those Fellows who are a little more blessed financially than most might consider making a bequest to the Goodenough Fund. As a Society, then, our task during the War is to carry on as normally as possible, and to help others to do the same. In this connexion the Council has agreed to bring forward a motion, similar to one passed during the last War, that refugee biologists should be allowed certain privileges such as permission to attend meetings and to use the library. But the form of such a resolution presents difficulties not apparent before the days of totalitarian philosophy.

All possible economies consistent with the proper running of the Society are in being. It may well be that others will be called for; you may rely on your Officers and Council to face conditions with understanding, without dismay, and with

ready determination to fulfil the trust allotted to them. I appeal with confidence to Fellows of the Society to continue their Fellowship as long as they are able, and not to regard designation as anything other than an enforced calamity. No matter how long the war lasts there will be peace, and it will be easier to develop a Society which has shown itself capable of meeting difficulties with steadfastness than to build one that has just crumbled away in the face of adversity. Though there is no likelihood of rapid advances in biological studies such as we have witnessed in the physical sciences, many feel that the time is ripe for the consolidation of ideas and that the Linnean Society is well suited to play a prominent part in this. I fear that little more can be done at present, but we should keep active, open-minded, and buoyant. Such are some general aspects of the Society's affairs in present conditions. As I have said, as a Society we have no direct connexion with the war—we are passive, not active—we can do nothing except hope that nothing calamitous shall be done to us.

How about biologists as individuals? Some time ago there was a list of scientific workers prepared which attempted a classification of their special qualifications. I understand that no use has been made of this list so far as biologists are concerned. This is surprising, for one had thought that there were many biological problems which became even more urgent in periods such as the present than in more normal ones. Thus, I believe that if a unit of biologists were formed with a roving commission it would result in the saving of an enormous amount of unnecessary waste—waste that would be foolish in times of peace, waste that is tragic in times of war. During the last war there were many applications of biological processes in producing fermentation products—acetone, glycerine, lactic acid and such like. I do not know whether there is any possibility of shortage of necessary substances which may be produced by biological processes. If there is, teams should be set to work now, and these teams should always include trained biologists, for the recognition of organisms is as much a speciality as the identification of chemical substances. It would be out of place here to say more on this subject. I have no information and no responsibility in the matter and merely voice the opinion of many who have consulted me. The general feeling can be summed up thus: if biologists cannot be organized for war can they be organized to help in the reconstruction afterwards? Perhaps there may be plenty to do then, and we should see to it that there is complete collaboration with our allies. It is gratifying that a start has been made to this end by our French colleagues.

As individuals we may have an opportunity of doing something, however, though not in a very spectacular way. There are many in H.M. Forces who might be helped over difficult periods if they became interested in Natural History. Many of these men are seeing the common plants, birds and insects of the countryside for the first time, and others under circumstances when their interest is easily aroused. Entertainment for the troops is usually of a certain type, excellent in its way and nowadays the most popular of its kind. But some need more than mere amusement. It is not a matter of previous education, but is temperamental. The need may be met with music or poetry or other literature, for some it is Natural History. What can one say in answer to a letter asking whether the enclosed flower is a cowslip? It may be to settle a bet—but it at least shows an interest, and it is up to us to encourage any such interest, not with the intention of popularizing our special subjects or for any other purpose whatever except helping these men to think of things other than evil ones.

There is no need whatever to organize such efforts. The more informal they are the better. I would suggest that any Fellow who is prepared to help in this direction should get into touch with the Y.M.C.A. or similar organization at the nearest camp; or with the padres at the Military Hospitals. Here they will find a knowledge of individuals which is amazing and an offer to talk to one or two men or to give a lecture on some aspect of biology which has a popular appeal will invariably be accepted. During the last war I was fortunate enough to serve for about two years with H.M. Forces in Macedonia. My work took me to many General Hospitals and it was not long before a padre got me to talk to some of the men. Soon also the Y.M.C.A. Headquarters asked me to give odd lectures in various of their huts. At that time Gustav Holst was doing splendid voluntary work and getting wonderful results from what appeared to be the most unpromising material. Others, either serving with the Forces or with the Y.M.C.A. talked on their own subjects or hobbies. Later, if I remember rightly shortly before the Armistice, the scheme developed by the Y.M.C.A. was ruined by being taken over by educational experts sent out to train men for the peace.

Those in charge of officers and men suffering from post-malarial depression also found that some benefited from having an interest in the growth and development of the plants they could observe on their walks.

It is true that Macedonia was rather exceptional in the fact that the Army was held in a well-defined area and that the amount of sickness, chiefly malaria and dysentery, was abnormally high. What was done there in a small way could

done many times over among the forces in training or on the defence, and cover the whole of biology. Overseas such effort would need to be made by those serving with the Forces. That the Army authorities welcome anything to keep the men in good spirits needs no stressing. Thus in Macedonia the particulars relating to a plant-collecting competition for Warrant Officers, Non-Commissioned officers and men were published in General Routine Orders, and H.Q. in other ways gave support and encouragement to the scheme—and the Army Newspaper, the 'Balkan News', in happy memory, took natural history in its stride. H.M. Ionian Forces might be said to have become botanically minded—but those of you who have been fortunate enough to see Macedonia in spring will not regard this as unnatural.

To return to the more immediate affairs of the Society—our Clerk, Mr. T. O'Grady, is now serving with the Forces. We wish him and all our Fellows on active service good luck and a safe return. Miss P. F. B. Liddle, B.A., has been appointed temporary clerk. The year has been a heavy one for the staff, for in addition to their normal duties they have readily undertaken the extra work due to the use of the Society's rooms by other Societies.

For myself I wish to express my gratitude to you for the readiness you have shown during my three years as President and fourteen years as Botanical Secretary. The work has not been light, for official and other duties have had to be done, but the friendly relations between the officers have made it possible and pleasant. To the Council and the Staff and particularly to those sitting with me this evening I tender my warmest thanks for the ever ready and constant help they have given me during a very difficult period.

To my successor I wish the same good fortune. I have no doubt he will fill the office with lustre.

The PRESIDENT then delivered his Address, 'On a collection of Dillenian drawings'. [To be printed as Part 5 of the Proceedings.]

On its conclusion, Sir ARTHUR SMITH WOODWARD, F.R.S., moved 'That the President be thanked for his excellent address, and that he be requested to allow it to be printed and circulated amongst the Fellows'. The motion was seconded by Sir ARTHUR W. HILL, K.C.M.G., F.R.S., and being put to the meeting was carried with acclamation.

The Scrutineers of the Ballot, who had retired at the appointed times with the voting-lists for the election of the Council
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and of the Officers, having completed their scrutiny, reported to the President, and he declared the result as follows :—

COUNCIL FOR 1940-41.—Prof. W. A. F. Balfour-Browne, Mr. I. Henry Burkill, Mr. R. H. Burne, F.R.S., Dr. E. Marion Delf, Mr. Francis Druce, Mr. J. S. L. Gilmour, Miss M. L. Green, Prof. T. M. Harris, Dr. Anna B. Hastings, Mr. H. R. Hewer, Dr. H. S. Holden, Mr. Fred Howarth, Prof. T. G. B. Osborn, Mr. J. R. Norman, Dr. C. F. A. Pantin, F.R.S., Mr. H. W. Parker, Mr. John Ramsbottom, O.B.E., Dr. E. S. Russell, O.B.E., Dr. Malcolm A. Smith, Major F. C. Stern, O.B.E., M.C.

(The retiring Councillors were Capt. G. R. de Beer, Capt. Cyril Diver, Mr. M. A. C. Hinton, F.R.S., Dr. Fred Stoker, and Prof. F. E. Weiss, F.R.S.)

OFFICERS FOR 1940-41.—*President* : Dr. E. S. RUSSELL, O.B.E. ; *Treasurer* : Mr. Francis Druce ; *Botanical Secretary* : Mr. I. Henry Burkill ; *Zoological Secretary* : Dr. Malcolm A. Smith.

Thereafter the President declared the Session of 1939-40 closed.

OBITUARIES.

CHARLES HORTON BESTOW died on 27 August 1939, in his 78th year. Although actively engaged in business as a builder and contractor for the greater part of his life, he was always keenly interested in Natural History, particularly in those sections depending mainly on the microscope for their investigation. This led him to join such Societies as the Quekett Microscopical Club, the Royal Microscopical Society, the Essex Field Club, etc. He was not a specialist on any one branch, but rendered good service to all the Societies to which he belonged on Committees and in various other ways. To the Quekett Microscopical Club he was especially devoted and helpful, acting as its Treasurer for the nine years ending December 1937. He was elected a Fellow of the Linnean Society in 1930.

D. J. SCOURFIELD.

CHARLES JOHN BOND, C.M.G., F.R.C.S., was a man of outstanding medical attainments whose interests and energies overflowed into many fields besides his primary work as a surgeon. His death leaves a gap in the ranks of the older generation of medical men who took a wide view of their service to mankind and to the State. He was a man of great kindness of character added to a robust personality. In addition to being a distinguished surgeon, his general interests

biology, and especially in genetics, led to breeding experiments particularly with fowls, pigeons and rabbits, and the study of the eye-pigments of birds. The genetical problems of asymmetry particularly attracted him, and led to several papers in the *Journal of Genetics*. At the Leicester meeting of the British Association he gave a demonstration of much of this work one afternoon in the grounds of his home. Another paper in the *Journal of Genetics* investigates the influence of pollen maturity and restricted pollination on the Mendelian ratios in garden peas.

Dr. Bond was born on 27 October 1856, the son of George Bond of Bittesby, Leicestershire. He was educated at Repton School and University College, London, where he entered as a medical student in 1875. As an undergraduate he was an Assistant Demonstrator in Anatomy, and won medals in Physiology, Anatomy, Surgery, Midwifery and Medical Jurisprudence.

In 1882 he became House Surgeon to the Leicester Royal Infirmary, where he was concerned in introducing aseptic methods, and with this institution he retained a connection in various administrative capacities even after his retirement from active practice in 1912. He was also a President of the Leicester Literary and Philosophical Society, and Vice-President of University College, Leicester, and in 1925 he received the Freedom of the City of Leicester for his help to philanthropic and other bodies. In 1924 he was elected Fellow of the Linnean Society and also a Fellow of University College, London.

Colonel Bond's many services to medicine in its national aspects, both before and during the Great War, need not be detailed here. They include membership of the Medical Research Council and the Inter-Allied Commission on Treatment of War Wounds, as well as the post of Consulting Surgeon to the Northern Command. He was twice mentioned in despatches, and received the C.M.G. in 1917.

Dr. Bond was an original member of the Genetical Society, whose meetings he frequently attended, and a Life Member of the British Association. His medical knowledge led him to be a strong supporter of Eugenics, and in 1928 he gave the Alton Memorial Lecture of the Eugenics Society. His interests in human heredity were shown in the William Withering Lecture at Birmingham in 1932, and he gave important help in the founding of the Bureau of Human Heredity. His medical writings and addresses were considerable, and one of his last writings was 'Recollections of Student Life and Later Days, a tribute to the memory of Sir Victor Horsley'. Among the many causes and movements which he supported was the Society for the Legalization of Voluntary Euthanasia.

All who knew Dr. Bond could not fail to be impressed by his great energy and the kindliness and integrity of his character. In 1890 he married Edith, daughter of the late George Simpson, J.P., of Hazlebrook, Derbyshire, who survives him, and is a Justice of the Peace in Leicester. His daughter is now Mrs. A. H. Simpson, and his son follows the medical profession.

R. R. GATES.

EDWARD ASHDOWN BUNYARD was born in Maidstone in 1880 and died on 19 October 1939. Educated privately, from his earliest years he lived in the atmosphere of fruit, a scion of the world-famous and century-and-a-half old firm of George Bunyard Ltd., of which he was the senior member at the time of his death.

To follow a family vocation as a matter-of-course (and with a certain resignation) is not uncommon, but to follow it with the boundless enthusiasm of Bunyard is. It is not too much to say that he was the greatest living authority on fruit on its history, cultivation, qualities, position in diet, and how and when it may be best enjoyed. His keenness on the subject was shown by founding 'The Journal of Pomology' and his intimate grasp of it demonstrated by his 'Handbook of Fruits', and that lighter and delightful volume 'The Anatomy of Dessert'.

But Bunyard was no rigid specialist. Anything in the realm of gardening claimed his interest. On the Roses of the past he could speak with rare knowledge and some idea of his researches in this direction may be gathered from his 'Old Garden Roses'. He took a prominent part in the organizing and stimulating of horticultural endeavour carried on by The Royal Horticultural Society, serving on the Council of that body through a period of sixteen years, being a member of four of its standing committees and chairman of two. The scientific side of his work was symbolized by his long association with The Linnean Society. Elected as a Fellow in 1914, he acted on the Council from 1924 to 1927 and his membership of the Library Committee was only terminated by death.

Bunyard was an acute observer of men and things. His judgments were deliberate, shrewd and impersonal. My own association with him was not of a kind to disclose his commercial capacity, but he never struck me as bearing the insignia of a business man. His cheerful equanimity, breadth of vision and mellow wisdom spoke rather of the scholar than the trader; his gentle tact and conversational range indicated contact with literature rather than with balance-sheets.

To horticulture and other gentle arts his loss is a grievous misfortune. To his friends it is irreparable.

FRED STOKER
PROC. LINN. SOC.

GUARD FISCHER.—Born in Berne in 1861 Eduard Fischer was destined to succeed his father, Ludwig Fischer, in the Chair of Botany in the University of that town. His early interests, however, lay rather in the direction of Mineralogy and Geology, and as a boy he was a keen collector of geological and mineralogical specimens. When he was of age to attend the University in Berne, Geology, Zoology, Physics and Botany were all studied with equal zest. Later he moved to the University of Strassburg, where he continued his studies in these subjects, but coming under the dominating influence of De Bary he became engrossed in the fascinating study of fungi, to which he devoted himself whole-heartedly throughout his life. He took his doctor's degree in Strassburg in 1883, his thesis being entitled 'Contributions to our Knowledge of the genus *Graphiola*'. In 1884 he went to Berlin and worked for some time in Schwendener's laboratory, developing his knowledge of systematic botany by attending the lectures of A. W. Eichler and G. Ascherson. He also met there Paul Magnus, who became his close friend and a co-worker in the group of fungi. In 1885 Fischer returned to Berne and became a Privat-Dozent, giving a course of lectures on the fungal diseases of plants, and assisting in the practical work of the department. When his father retired from the professorship in 1897 Eduard Fischer was appointed to the Chair of Botany, which he held until his retirement in 1933. Unfortunately his department was very inefficiently equipped and poorly equipped, and for many years he had to run it single-handed, having no assistant. At last in 1905 proper laboratory and greenhouses for the botanical garden were provided. In 1929, almost at the end of his career as professor, one of the last wishes of Eduard Fischer took shape in the foundation of an alpine garden on the Schynigen Platte. In spite of the difficulties of his understaffed department Fischer managed to accomplish a considerable amount of research work, mainly of a mycological nature. He became widely known as an authority on fungi, and was responsible for the Phallineae, Hymenogastreae, Lycoperdineae and Clavariaceae in Engler and Prantl's 'Pflanzenfamilien'. His only larger work was produced in conjunction with a former student and co-worker under the title of 'Vergleichende Mykologie der Pilze' (1926).

Fischer was a first-rate teacher, very methodical and painstaking, and of a most modest and loveable disposition. His selfless labours for the botanical interests of Switzerland were recognized by his election to honorary membership of many cantonal botanical societies. He was elected Foreign Member of the Linnean Society in 1935, and received an Honorary Fellowship (1939-40).

Honorary Degree of the University of Geneva on the occasion of his 70th birthday.

He died on 18 November 1939 in his 79th year, leaving a widow, two sons and a daughter.

F. E. WEISS.

Dame MARIA MATILDA OGILVIE GORDON.—Born in 1864 Maria, the daughter of the Rev. Alexander Ogilvie of Aberdeen was married in 1895 to the late John Gordon of Aberdeen.

She was educated at the Ladies College in Aberdeen, from which she obtained a travelling scholarship. This she used in the first place for study at University College, London where she distinguished herself by obtaining the Gold Medal in Professor Ray Lankester's course in Zoology and Comparative Anatomy. She took the D.Sc. degree of the London University in 1893. From 1891 to 1895 she studied Geology and Palaeontology in the University of Munich, and was the first woman to take the Ph.D. degree in that university. She joined the Linnean Society in 1904, and also the Geological Society, which awarded her the Lyell Medal in 1934 for her researches into the geology of South Tyrol. Most of the dolomitic mountains of this region were considered undisturbed examples of ancient coral reefs, but she discovered evidence of important thrust planes. She published several accounts of her investigations, including articles on the microscopical structure of recent and fossil corals. Her important geological work was recognized by the University of Edinburgh which in 1935 conferred on her the honorary degree of Doctor of Laws.

Much of her spare time was devoted to the interest of women and children. She was the first vice-president of the Council of Women of Great Britain and Ireland (1916–20), Hon. President of the Association of Women's Friendly Societies, President of the Women Citizens' Association, and a member of the Board of Education Juvenile Organisations Committee. In recognition of her work in this direction she was made Dame of the British Empire in 1937.

She died on 24 June 1939, leaving one son and two daughters.

F. E. WEISS.

Colonel CONRAD THEODORE GREEN was born at Helme West Yorkshire, on 18 November 1863, his father being incumbent of this small upland parish. He early evinced an affection for the open air, and his parent encouraged him in his love of nature. Such early predilection received added stimulus during his schooldays at Repton. After studying medicine at St. George's Hospital Medical School, London and graduating in 1887, he commenced practice in Birkenhead.

the same year, and remained associated with Cheshire and Merseyside for over fifty-three years. Dr. Green died at his home, Oxtou, Birkenhead, on 17 April 1940, following an illness of some weeks, and which developed from cold contracted during the phenomenal arctic conditions. By his death Merseyside loses a distinguished figure in medicine, and a scientist and nature lover of more than local reputation.

His love of the countryside and plant-life found frequent outlet in excursions and field work in Wirral and other parts of Cheshire, Lancashire, North Wales, and elsewhere. Fungi and Flowering Plants received special attention. A skilled photographer, and with an appreciation of art, he devoted much time and energy to securing photographic records of British Fungi and Phanerogamia. He had an extensive collection of lantern-slides, largely coloured, and distinguished for scientific value and artistic merit. His botanical interests, though the aesthetic were ever prominent in his lantern lectures, were always assured of a warm welcome by local and other scientific societies of which he was an active member.

Dr. Green was responsible for 'The Flora of the Liverpool District', published largely at his own cost, in 1902. This was the fourth of the series of published floras of the Liverpool District. A conspicuous and unusual feature in a local flora of the series of numerous original drawings of Merseyside plants by his friend, the late Miss E. M. Wood. This was followed by a second edition in 1933.

His work in connexion with the flora of Wirral received recognition by the Chester Society of Natural Science in 1905, when he had conferred upon him the highest honour in its gift, the Kingsley Memorial Medal. The award, which commemorates the Society's founder, Charles Kingsley, is made to those who have contributed materially to the promotion or advancement of some branch or department of natural science in the Society's area. He was President of the Liverpool Botanical Society in 1934, and the British Mycological Society also claimed his allegiance. Flora's League also honoured him for his active co-operation in association with its founder, the late Sir J. Abbot-Anderson, in furthering the national protection of wild plants.

Colonel Green was a generous donor to several institutions. He presented a valuable collection of coloured lantern-slides of Flowering Plants and Fungi to the Liverpool Museum, and there are others at the Natural History Museum (South Kensington). His excellent herbarium of British Phanerogamia and Pteridophyta was also gifted to the Liverpool Museum during his lifetime. The greater part of his botanical library was presented to the Birkenhead Corporation.

His army activities, in addition to a considerable private collection, (1939-40).

practice in Birkenhead, also call for mention. Joining the 1st V.B. Cheshire Regiment as Medical Officer in 1897 and promoted Lieut.-Colonel (1913), he had a notable career during the last war. At the outbreak of hostilities he was in command of the Casualty Clearing Station at Cardiff. During this period he did a great deal of work for the Red Cross Society and the St. John's Ambulance Brigade. In December of the same year he was placed in chief medical charge of the 2nd Welsh Division. Becoming Assistant Director of Medical Services for the 68th Welsh Division in January 1915, he held this position for four years, and was promoted to Colonel. He also served as Acting Deputy Director of Medical Services for the 23rd Army Corps at Bury St. Edmunds. On demobilization he went direct to the Ministry of Pensions in London, where he was Deputy Commissioner of Medical Services.

His three sons also served in the War. The second son was killed at Suvla Bay, Gallipoli. Dr. Norman Green, the youngest, has been a missionary for the Church Missionary Society at Messano, Kenya Colony, for the past twelve years. Colonel Green was keenly interested in the St. John's Ambulance Brigade, and was President of the Birkenhead organization for over ten years. This interest was shared by his daughter, and after training with the Brigade she is now attached to the first-aid post.

A. A. DALLMAN

ROBERT WILLIAM THEODORE GUNTHER (R. T. Gunther), born 23 August 1869 at Surbiton, was the only child of Dr. Albert Gunther, F.R.S., sometime Keeper of the Zoology Department at the British Museum, by his first wife, Roberta McIntosh. He was educated at University College School, London, and at Magdalen College, Oxford, which he entered as a 'dem' in 1888. In 1892 he obtained a 'first' in Natural Science, specializing in Morphology, and in 1893 was awarded a University Studentship at the Biological Station, Naples. There he began an association with the Mediterranean, and particularly with the coastline of Italy, which was maintained throughout the greater part of his life. In 1894 Magdalen College appointed him Lecturer in Natural Science; two years later he became Tutor. In 1897 he was elected to a Fellowship which he held until 1928.

In the nineteenth century, Magdalen College, like some of the other Oxford Colleges, maintained its own science laboratories in a building opposite the College, and adjacent to the Botanic Garden. They had been erected for Professor Daubeny, and contained the apparatus and specimens collected during a long and busy life by one who had held Chairs of Chemistry, Botany and Rural Economy simultaneously.

PROC. LINN. S.

of Gunther's work was done in these laboratories, and Daubeny he developed a veneration akin to hero-worship. To him the laboratories were almost a shrine to be tended and maintained as a Memorial of Early Victorian Science. In 1904 he published 'A History of the Daubeny Laboratory', annotated Registers of those who had worked in it. Further volumes appeared in 1916 and 1924. Although a comparative morphologist by training, and a College Tutor in Natural Science by virtue of office, Gunther was at heart an antiquarian, and it is for his devotion to the History of Science that he will be remembered. As a Fellow of Magdalen, with the Daubeny Laboratory as a base, he was able to indulge his taste and inclination for more than thirty years. On the decision of the College to close its laboratory, to send its science students to the University's Laboratories at the museums, and to lease the vacated buildings to the University to meet the growing needs of the Department of Botany was a blow to him. A traditionalist of Gunther's type was not of sympathy with the development of scientific research and teaching along the lines envisaged by the University in its mission of 1919-1922. Fortunately for him the Lewis Evans Collection of Scientific Instruments was given to the University in 1924 and housed in the Old Ashmolean Building. Gunther became the first Curator. He was appointed University Reader in the History of Science (1934), which office he held until he resigned in 1939. In the Old Ashmolean he was able to continue his work, accumulating and classifying complete and historic apparatus, which was for him also his passion. He died suddenly on 9 May 1940, with his plans for the use of additional floor space, recently granted to him, unfulfilled. By his diligence and pertinacity he added largely to the original Lewis Evans Collection, so that at the time of his death the Oxford Museum of the History of Science held a unique collection of scientific apparatus of all types. Gunther's college duties allowed him ample time for foreign travel. In the summer of 1898 he made a visit to the salt marshes of Urmi in Persia. Some of the results were published in his Society's Journal (Zoology, xxvii). He made a series of visits to Italy, interrupted by the last war and continued to its conclusion. He projected, but did not complete, extended research on the Archaeological and Geological changes in the Mediterranean Basin. In preparation for this he had published (Royal Geographical Society, 1908) a bibliography of over 2,000 titles dealing with 'Topographical and Geological works on the Phlegraean Fields'. It is a fair indication of his outlook that such a work should begin with 'Thucydides, *Historiae*, circa B.C. 167' and be rich in references to sixteenth and seventeenth century works.

As a zoologist Gunther published papers on Medusae and the systematic position of the Chaetognatha. During the last war he reported upon the 'Agricultural Damage Vermin and Birds in the counties of Norfolk and Oxfordshire in 1916' (Oxford, 1917).

In 1912 he published a book on 'Oxford Gardens' based upon Daubeney's popular 'Guide to the Physic Garden Oxford', long out of print. Portions of this he revised in a cheaper form as a 'Guide to the Oxford Botanic Garden' in 1914. (Gunther served as one of the Curators of the Physic Garden during the years 1914-1920.) The material for his second work of botanical interest he brought before the Linnean Society in 1921 (Proc. Linn. Soc. 133rd Session, p. 15). Gunther at that time held the office of Librarian of Magdalen College (1920-1923). In the library he found the books bequeathed to the College by John Goodyer (1592-1664). On these and the notes that they contained he based his 'Early British Botanists' (Oxford, 1922); a book which brought to light much information on Botanical Work in Britain between the time of Johnson (editor of Gerard) and Ray.

Gunther by this time was well embarked upon a series of books under the general title of 'Early Science in Oxford' which appeared in eleven volumes between 1920-1937. During the same period he also published 'The Astrolabes of the World' (two volumes, 1932); the 'Life and Works of Robert Hooke' (1930), and edited his 'Diary' (1935); also 'Early Science at Cambridge' (1937). His last published work, 'The Life and Letters of Edward Lloyd' appeared this year. It is not easy to assess the value of all this published work. Gunther at times worked fast—faster than was consistent with accuracy, a grave fault in an editor—and he liked to work alone. He has justly been criticized for failing to seek the advice of his colleagues on points of specialist knowledge which he could not possibly have possessed. This omission on his part led to errors which should have been avoided. In spite of them, it may well be that future workers in the History of Science will have cause to bless his memory for salvaging information as well as apparatus that would otherwise have been lost, both in his own University and that of Cambridge.

Gunther married Amy, daughter of Eustace Neville-Rolfe of Heacham, Norfolk. He had two sons, the elder, Eustace Rolfe, zoologist to the R.R.S. *Discovery*, 1925-7, who was accidentally shot on active service soon after his father's death. With his wife, Gunther published two volumes of family Records, that of the Gunther Family (1910), and that of the Rolfe Family (1914). He became a Fellow of the Society in 1900 and was Vice-President 1927-8.

G. D. HALE CARPENTER and T. G. B. OSBORN

PH ALFRED HILL (1851–1939).—Born at Birmingham in 1851. J. A. Hill received his primary education at Edgbaston, and later entered the Spring Hill College, Birmingham. He subsequently practised for a few years as an accountant in the city. He retired from professional work at an early age and moved to Leamington where, being an ardent educationalist and advocate and supporter of scientific pursuits, he spent much of his leisure in the study of science and natural philosophy, botany and microscopy being his chief interests. In 1881 he was elected a Fellow of the Royal Microscopical Society, and a Fellow of the Linnean Society in 1891. He died at Leamington in October 1939 in his eighty-eighth year.

C. TIERNEY.

DONALD EDWARD CHARLES JAMES, who was elected a Fellow of the Society on 10 May 1934, died on 1 October 1939, after an illness lasting eight months. He was the son of James Frederick Ham-James, a schoolmaster, and was descended from William Vallance of Exeter, a landed proprietor, and John Ham, a shipowner, who had extensive trading relations with the West Indies.

Mr. James early in life became interested in Natural Science and Archaeology, and obtained a post as Assistant Curator of the Maidstone Museum and Clerk to the Kent Archaeological Society. In 1885 he was elected Clerk of the Royal Society, a post he held with distinction until 1925, when he retired. In addition with the Royal Society he acted, for fifteen years, as Secretary to the Executive Committee and to the General Council of the National Physical Laboratory.

For more than forty years, Mr. James contributed articles on many and varied subjects to the London and Provincial Journals, to 'Nature' and other scientific journals. He wrote a number of the biographies of scientists for the 'Dictionary of National Biography'. His other interests included the County Library Schemes, and for several years he served as County Librarian at Ruislip, where he resided for 27 years. Mr. James married in 1898, Ada Mary, elder daughter of J. Roberts, a Principal in H.M. Woods and Forests Department. His only surviving son is a cable engineer.

H. W. ROBINSON.

Colonel HENRY HALCRO JOHNSTON, C.B., C.B.E., D.L., D.Sc., D.P., C.M., F.R.S.E., F.L.S., was born 13 September 1856, and died 18 October 1939. He was the fifth son of James Johnston of Coumbister, Orphir, Orkney. He received his schooling at Dollar Academy; and after completing his medical Course at Edinburgh University he attended the Army Medical School at Netley, and joined the Army Medical Service in 1881. While at the University of Edinburgh he

was a very prominent athlete, representing the University in various sports. Endowed with a powerful physique, he was eminent as a hammer thrower, and on the Rugby field played for Scotland against England and Ireland in the internationals of 1877. His first service overseas was with the Suakin Expedition in 1885. He was stationed in Mauritius from 1887 to 1890. Transferred to India, he accompanied the Malakand and Buner Expeditions on the North-west Frontier during the years 1897-8. For service in South Africa 1899-1902 he received the C.B. He was promoted Colonel in 1911, and retired two years later. He was however, again on duty for 1914-19 as D.D.M.S. at Gibraltar, and later as A.D.M.S. in the Western District, Scotland, and in the Northern Command, England. For this further service he received the C.B.E. On his final retirement he resided chiefly in Orkney, and was a Deputy Lieutenant for the county. He became a Fellow of the Linnean Society of London in 1893, and a Fellow of the Royal Society of Edinburgh in 1895.

Throughout his career abroad and in the midst of his normal duties Colonel Johnston took a keen interest in the flora of the various countries visited, and now and again made collection of herbarium material as well as seeds whenever opportunity offered. His first paper appears to have been a thesis which was accepted by Edinburgh University in 1894 for the degree of D.Sc. This was entitled 'On the relative efficiency of certain filters for removing micro-organisms from water, etc.' From time to time he published short papers on the flora of Mauritius, the flora of Orkney, and the flora of Shetland, most of which appeared in the 'Transactions of the Botanical Society of Edinburgh'. His interest, however, was rather in the collection of specimens than in the writing of papers. While with the army in the field he endeavoured to send seeds and interesting plants from areas which were previously inaccessible. This was particularly the case during the Malakand and Buner Expeditions. While in South Africa he collected 700 specimens of the flora of Natal. It was only, however, when he retired finally to Orkney that he was able to devote himself entirely to botanical pursuits. He was particularly enthusiastic in the survey of the flora of his own group of islands, and it is unlikely that any county of Great Britain has been examined with the same detail as Colonel Johnston gave to Orkney. His methods were always scrupulously exact, and his notes on the specimens collected were a model of accuracy and of care. In the result his collection from the county is a particularly complete one, and has been gifted by him to the custody of the Orkney Museum. He exercised the greatest diligence in having his

imens scrutinized by whatever experts were available, the result that his records for the county can be regarded dependable. He devoted a good deal of attention to the species of *Taraxacum* and *Hieracium*. His specimens submitted to Dahlstedt, an eminent authority, with the result that a large number of new species of these two genera have been recorded for this northern group of islands. His botanical collections and notes, with the exception of Orcadian specimens already referred to, he bequeathed to Edinburgh Botanic Garden.

Colonel Johnston retained his vigour of body and mental freshness until on the verge of his eightieth year, and was only excluded from his explorations by illness during the last few years. He was unmarried.

WILLIAM WRIGHT SMITH.

ODORA LISLE PRANKERD was born in South Hackney, London, on 21 June 1878. After attending Brighton High School she entered Royal Holloway College, where in 1900 she obtained a Founder's Scholarship, and in the following year the Driver Scholarship. In October 1903 she migrated to University College, London, taking the degree of B.Sc. with first class honours in Botany in the following year. She was awarded the degree of D.Sc. of the University of London in 1909.

After graduation, in addition to a certain amount of school teaching, Miss Prankerdd carried out research work in the botanical department of University College, London. Two valuable pieces of work resulted. One, a study of the structure and biology of the two species of *Hottonia*, was suggested by Professor F. E. Fritsch. This early work was actually destined to influence decisively the direction of its author's subsequent line of scientific research, for the marked sensitivity to gravity exhibited by the plant, and its considerable development of statolith starch, stimulated in her an interest in the relationship of statocyte tissue to graviperception which led to the very fine series of researches on the latter subject which undoubtedly constituted her major scientific work. An account of the work on *Hottonia* was ultimately published in the 'Annals of Botany' in January 1911, under the title 'On the Structure and Biology of the Genus *Hottonia*'.

The second piece of work carried out by Miss Prankerdd during this period was an examination of the fossil seed *Penstemon ovoides*. The account of this work, published in the Linnean Society's 'Journal' in 1912, was based on an examination of preparations from no less than forty whole seeds and four imperfect ones handed to Miss Prankerdd by Professor F. W. Oliver, together with eleven specimens from

the Williamson Collection in the British Museum. Although this was the only paper on fossil botany which Miss Pranker published, she retained her interest in this side of botany for the rest of her life, and, indeed, at the time of her death, had returned to research in it.

During this early period of her scientific career Miss Pranker paid a visit to her cousin, Professor Soares, at Chicago, and while there worked for some time in the Botanical Department of that University. Her impressions of that department were recorded in the 'New Phytologist' for 1908.

In 1912 Miss Pranker became part-time Lecturer in Botany at Bedford College, and was soon raised to the rank of a full-time Lecturer. This post she held until 1917. She was then appointed Lecturer in Botany at University College, Reading, afterwards the University of Reading, a post which she held until her death.

Her research work during this long period was almost entirely devoted to a study of graviperception. On two occasions at meetings of the British Association she read papers on the statolith apparatus in plants, first at Manchester in 1915, and later at Bournemouth in 1919. In 1920 she published a paper in the 'Botanical Gazette' on the Statocysts of the Wheat Haulm. Her interest in graviperception culminated in the series of 'Studies in the Geotropism of the Pteridophyta' published during the years 1922 and 1930, which presented the results of the well-planned and carefully executed work which she carried out in Reading. In these studies Miss Pranker achieved a remarkably successful quantitative analysis of geotropism in ferns, a field of work which had previously been almost unexplored, and which was attended with many and serious difficulties which she successfully overcame.

In addition to her own work, Dr. Pranker inspired a number of research students who, under her direction, carried out investigations on irritability of plants. These students include Miss E. D. Brain, F.L.S., Dr. L. Hawker and Miss F. M. C. Waight, F.L.S., and a number of important publications by these workers resulted. These included accounts of investigations not only on the geotropism of ferns, but on geotropism of various angiosperms, notably *Lupinus*, *Lathyrus*, and *Triticum*. At the time of her death Dr. Pranker was collecting material for a small book on irritability in plants.

Perhaps the most characteristic of Dr. Pranker's personal qualities were loyalty, warmheartedness and unbounded enthusiasm for the causes which she espoused. Her friendships were lifelong. In her earlier years she was a keen advocate of women's suffrage, and after this had been achieved she became a firm believer in the League of Nations and

less advocate of the League of Nations Union, of which she for many years the Secretary of the Reading Branch. Her best personal attachment was undoubtedly for her mother, who lived with her in Reading for many years, and who survives her. In memory of her daughter Mrs. Prankerd has founded a research scholarship in Botany for women at University College, London, to be known as 'The Theodora Prankerd Scholarship'. Those of us who were aware of the affection that Miss Prankerd always felt for that institution, in which she began her research in botany, know that this is exactly the way in which she would have liked to have her memory preserved.

Miss Prankerd died as the result of being knocked down by a bus a few yards from her home in Broad Street, Reading, in November 1939.

W. STILES.

FRANK ROSENHEIM was born in Würzburg, Bavaria, in 1878, educated in that town, came to this country in 1901 and lived here for the rest of his life. He died after a short illness on 22 November 1939.

The surroundings of his boyhood stimulated an inherent love of plants. The usual pastimes and games of youth meant little to him. His free days and holidays were spent searching for alpine plants among the Bavarian hills, not in order to collect them, but merely for the delight of looking at them. He was never that kind of plant-hunter who measures his success by the weight of his rucksack. He reckoned it by the number of plants he had seen and examined. As time went on and the range of his explorations extended, he gradually gained a knowledge of the alpine plants of Central Europe which gave him a position of authority on the subject. And, for he had a prodigious memory, his knowledge was at his instant command, and at the disposal of anyone who asked for it. But it did not limit his interests to European plants. *Fritillaria* and *Daphne*, both of them widely distributed groups, possibly interested him, indeed, more than any other genera. On the whole, Rosenheim was our foremost amateur authority.

His enthusiasm and energy were amazing. A stockbroker by profession, and travelling from his home in East Molesey to London City every day, he still found time to do all the important work in his garden. So many hours before breakfast and so many every evening; that was how he managed it.

Other amateur pursuits which held him were the collecting of prints and books, the latter of a horticultural and botanical kind. But collecting is not the right word; it expresses too little. Anyone can get together a number of pictures and books, but few have the knowledge of detail and appreciation of line and colour that Rosenheim possessed, and fewer still

his ability and inclination to read botanical books in almost any European tongue.

But what can I say of the inner Rosenheim? Only that he was the kindest and most loyal of friends, that he never harboured an unkind thought, and that he bore sorrow and misfortune with uncomplaining courage. FRED STOKER.

ERNEST JUSTUS SCHWARTZ, M.A.(Cantab.), D.Sc.(Lond.), was born on 11 November 1870. He was the fourth son of Mr. John Schwartz, of Ivy House, Woodford, his family having lived in London for more than two centuries. He was educated at Eastbourne and at King's College, London, where he studied Mathematics under Professor Hudson for two years. In 1888 he won a Mathematical Scholarship at St. Catherine's College, Cambridge, where he rowed for his College. He was senior optime in the Mathematical Tripos in 1891, and was afterwards Mathematical Lecturer at Carlyon College, Chancery Lane, for nearly ten years. He was a gifted mathematician but, being a man of private means, he did not seek advancement. In the summer of 1889 he and his brother represented the University of London at the Fêtes des Étudiants held in Paris on the occasion of the inauguration of the new Sorbonne and was afterwards presented to President Carnot.

Dr. Schwartz became interested in the plants around his country home, so he returned to King's College and took up evening classes in Botany under Professor Bottomley. He graduated B.Sc. with 1st class Honours in Botany about 1900 and obtained the D.Sc. in 1914. He was a member of the staff of the Department of Botany at King's College from 1897 when he had charge of the evening students, until his retirement in 1935. He was made Lecturer in 1919.

Dr. Schwartz's main botanical interests were in the lower fungi, particularly the Plasmodiophorales, which are parasites in the roots of flowering plants. He discovered and described several new species of these from parts of Kent near his home at Sevenoaks, where he lived with his two sisters. He described the life-histories of several species in papers in the 'Annals of Botany'. He was a recognized authority on the group, and stimulated further work in others.

Dr. Schwartz had five brothers, one of whom was an Egyptologist, one a biologist, and one a Professor of Electrical Engineering at Manchester University.

Dr. Schwartz died on 29 December 1939, at the age of seventy. He was a man of very quiet and retiring personality. He was elected a Fellow of the Linnean Society in 1906.

R. R. GATES.

Over a period of years, I was privileged to be his companion in visits to Dorset, a county which he loved, and the flor

which he knew intimately, and, on the visits to gather
 tly a knowledge of the British Natural Orders through
 methods of teaching—methods which obviated the initial
 culties of the subject—coupled with his extreme patience.
 t is much to be regretted that he did not publish some
 ount of his simplified system.

W. W. ALLEN.

CHARLES DAVID SOAR (1853–1939).—With the passing of the
 C. D. Soar in November 1939 the Society loses a Fellow
 whose outstanding contributions to the study of the Hydra-
 charina are widely known.

Born at Upton in Essex in 1853, and educated at St. Mark's
 school, Chelsea, he entered the fine art business, in which he
 made the acquaintance of many distinguished artists. His
 artistic skill proved of great service to him in preparing the
 many excellent illustrations which accompanied his numerous
 papers published during the past forty years. In his early
 years he developed an aptitude for the study of natural history,
 especially of microscopic pond-life; and after acquiring
 a good general knowledge of the various groups and their
 environment, he devoted himself exclusively to the study of
 Hydracharina, upon the British species of which he
 became a universally recognized authority, and in 1925–9,
 in conjunction with W. Williamson, he published through the
 Linnean Society three well-illustrated volumes on the subject,
 which are the only authoritative monograph thereon in the
 English language.

He was elected in 1911 to the Fellowship of the Linnean
 Society, of which he remained a Fellow until his death. He
 was also a Fellow of the Royal Microscopical Society, and a
 prominent member of the Quekett Microscopical Club, of
 which he became President in 1935–7.

Soar was an ardent field-worker and an accomplished
 microscopist, and whether on field excursions or in his study
 was always a delightful companion whose sterling friendship
 and ever ready help it was a privilege to enjoy.

His modesty masked a noble character and genuine pride
 in being numbered amongst that loyal band of amateur
 workers, who, by their unremitting labours and devotion to
 the objects of their study, have so generously enriched our
 records of ascertained knowledge and the advancement of
 science, for which we owe to them an abiding debt of grateful
 acknowledgment.

C. TIERNEY.

THUR ROBERT THOMPSON was born at Trichinopoly, India,
 1890, and died at the early age of forty-nine on 9 December
 1939. He was the son of the Rev. J. M. Thompson, a Methodist
 missionary. He married Miss Annie Dean, daughter of the
 Rev. J. M. Dean, D.D., F.R.S. (1939–40).

late Rev. Harry Dean, a retired Methodist Minister. Our late Fellow was educated at Kingswood School and Walthamstow Grammar School, and at a very early age possessed a keen love for Nature. He entered business in the City of London, and there remained until the outbreak of the Great War in 1914. He was then called up to serve in the Royal Naval Volunteer Reserve on H.M.S. *Dreadnought*, and among his experiences was being at Scapa Flow when the German Fleet was scuttled. Thompson at that time had opportunities for visiting the Orkneys and other Islands in the North for pursuing his Natural History studies, Commander Hope of H.M.S. *Dreadnought* accompanying him on these expeditions, and giving him facilities for these pursuits.

Thompson was of fine physique, a remarkable walker, a fine runner, and a strong swimmer. With two thousand runners off scratch, he entered for and won, the North Sea Fleet Cross Country Championship when H.M.S. *Dreadnought* was in dry dock at Chatham, and he was also an active member of Herne Hill Harriers.

Thompson served for sometime as a Seaman, but during the last Great War obtained a Commission in the Photographic section of the Royal Naval Air Service, which took him to France, the Aegean Islands, and elsewhere, and although he came through all his War experiences unscathed, there seems little doubt that even his strong constitution was impaired.

After the War, he entered the Inland Revenue, and held posts as Inspector of Taxes in various places; his last appointment being at Guildford, Surrey, where, at the near-by village of Onslow, he passed away.

To the general public our late Fellow will best be remembered by his remarkable work, 'Nature by Night', which he wrote at great speed, and which was published in 1931. This original and unique book was illustrated by over 100 photographs by the author, and was a great success, though it is feared that Thompson's all-night vigils watching and photographing Badgers and other nocturnal creatures, together with his intensive occupation by day and writing at night, undermined his reserve of strength, and from that time his health caused much concern. A second volume, entitled 'Nature by Day' followed soon after his first successful literary venture and this meant a further call on his mental and physical energies.

Thompson's powers of observation, and his great abilities as a field naturalist, are evidenced by his two publications mentioned, but to those who had the privilege of knowing him for over a quarter of a century, he will be best remembered because of his insatiate love for the outdoor world, and his keen humanitarian principles. His nature notebooks were models of what such should be, and as a photographer of wild

tures he had few equals. Although he was a collector in his early days, he has himself told us that it was no hardship to lay aside his collecting apparatus in substitution for a camera, field glass, and notebook, and as he himself wrote—'it is better to sit on a mill-bridge and watch an Otter diving itself in the moonlight than to transfer the rarest Moth, the Nonpareil, or Convolvulus Hawk, to the Collection'. He further wrote—'To be able to interpret the signs and sounds of the wild open country is a proud accomplishment, the gradual acquisition of which is in itself a joy and satisfaction impossible to exaggerate.'

During his residence at Letchworth, Thompson was Assistant Secretary of the Letchworth and District Natural History and Aquarian Society. He was elected a Fellow of our Society in 1919.

W. PERCIVAL WESTELL.

ROLD STUART THOMPSON (1870–1940) was born at Bridgewater, the son of William Thompson and his wife Agnes M. Croft Stuart. A member of the Society of Friends, he was sent to school first at Sidcot and then at Bootham, York, where he was in the 1st cricket and football elevens. He spent two years at University College, Bristol, and a further year at Christ's College, Cambridge, but did not proceed to a degree. After he took up and practised for some time the profession of land surveyor. During the war he acted as a bank clerk and as a timber supply officer. He was a Fellow of the Linnean Society from 1901–7 and 1911–23, and was elected Associate in 1930.

While still a schoolboy he recorded the occurrence on Bleadon Hill, Somerset, of the pale yellow rock-rose, a reputed hybrid between *Helianthemum Chamaecistus* and *H. polifolium*. Thus his capacity as a naturalist was in early evidence, and his profession, later, gave him the opportunity to indulge in his hobby for those country pursuits—walking, fly-fishing, collecting—to which he devoted more and more of his time. His interests were very wide; but he was primarily a botanist, and did much serious collecting, both at home and on the Continent, where he travelled widely. His British Herbarium is now at Birmingham University and his Continental Herbarium at the National Museum of Wales.

He was a very able, observant and discriminating field botanist. Three books show his aptitude for systematic botany: 'Alpine Plants of Europe' (1911); 'Sub-Alpine Plants of the Swiss Woods and Meadows' (1912); and 'Flowering Plants of the Riviera' (1914). They are probably the most useful guides in English to the floras with which they deal. They are comprehensive and clear, and the introductory chapters deal properly with the general aspects of the subjects. His interest in ecology was shown by his studies

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on the vegetation of the Somerset coast, described in papers in the 'Journal of Ecology', vols. x and xviii. The diversity of his interests is indicated by the publication in 1928 of a memoir on the artists George and Alfred Fripp, and by the very numerous notes and articles he contributed to the local press and to natural history journals.

For many years he had lived in Bristol, and had done much for local bodies. He was a devoted member of the Bristol Naturalists' Society and the Somerset Archaeological Society. From 1921 to 1934 he was Secretary of the Watson Botanical Exchange Club. With Professor A. G. Tansley he was instrumental in securing the purchase of a piece of moorland near Glastonbury, where he had discovered, for the first time in Britain, the rare hybrid sedge *Carex riparia* $\times$ *lasiocarpa*. This 'Sharpham Moor Plot' was conveyed to, and is now one of the properties held by, the Society for the Preservation of Nature Reserves.

He was a frequent visitor to Bristol University, and he usually came with some specimen of interest, or with some problem which his always observant eye had discerned, or with some gift—of books or pictures or specimens. His paintings and library he left to the University of which he had long been a thoughtful benefactor. His conversation on these visits was discursive, interesting and cultured. His death, after a short illness, leaves us the poorer by an active mind and a most kindly nature.

M. SKENE.

Professor ROBERT SCOTT TROUP, C.M.G., C.I.E., F.R.S., D.Sc., F.C.H.—With the death of R. S. Troup on 1 October 1939 foresters throughout the Empire have lost one of their ablest and most distinguished members and the greatest silviculturist of the time. Born on 13 December 1874, Troup was educated at the Gymnasium, Grammar School and University of Aberdeen, and in 1893 passed first, with record marks, the entrance examination for the Indian Forest Service. He commenced his forest training that year at the Royal Indian Engineering College, Coopers Hill, and passed out top of his year in 1897. Troup was a marked man soon after commencing his forest studies, not only on account of his ability but also his unassuming nature, lovable disposition and strong sporting instincts.

On passing out from Coopers Hill he was posted to Burma taking up his appointment on 15 November 1897, and soon showed his original trend of mind by introducing stock maps as adjuncts to Working Plans. His first charge was Tharrawaddy, one of the show divisions of Burma, where silvicultural operations were of absorbing interest and importance. He spent the first nine years of his service as a district officer in Burma, and in 1906 was transferred to Dehra Dun in the

ed Provinces, where the forest training school had been
blished for many years, and where, at the time he was sent
e, the Forest Research Institute was about to be inaugu-
. The Institute was divided into five sections, and
up was appointed to that of Utilization, with the title of
est Economist. His heart was, however, in Silviculture,
not long afterwards, and after a period of leave, he obtained
post of Silviculturist and Superintendant of Working Plans,
which capacity he did sterling work. In 1915 he was
ointed Assistant Inspector General of Forests to the
ernment of India, and in 1917 Controller of Timber
plies under the Indian Munitions Board, holding that
ointment until in early 1918. Troup left India in 1920,
ing been made a Companion of the Indian Empire sometime
iously, in recognition of his valuable services. His term
ervice was relatively short compared with the average,
in that time he had laid a sure foundation for research
hods in silviculture applicable to Indian conditions, and
in consequence, left a sound foundation on which to build.
aking such a statement no reflection is inferred on eminent
sters before his time, who had no Research Institute in
ch to work, and whose silvicultural activities had to be
bined with their executive and administration duties.

he year 1920 may be taken as the starting-point of the
nd phase of Troup's activities, on his appointment to the
ir of Forestry at Oxford, to fill the post then vacated by
William Schlich. To succeed such an eminent forester
Sir William was no small undertaking, for not only had he
orld-wide reputation, but he was an eminent teacher, and
remely popular both with his pupils and those with whom
ame in contact. Further, post-war conditions had brought
ny difficulties in its wake, not the least the shortage of
ned foresters in the Empire, and especially in India.
up was urged to expedite the course of studies, with all its
sequent dangers. He never swerved from what he con-
ered necessary to produce an adequately trained recruit,
ever much pressed, and his efforts to meet the urgent need
men and yet to maintain a high standard of training were
ckedly successful.

about that time Colonial Forestry was making steady
gress, and broader views were being taken both by the
onial Office and Colonial Administrations, with a view to
aging their forests under better protection and administra-
a. This movement resulted in the Colonial Office constantly
king Troup's advice on forest questions, and eventually in
paying several visits, especially to the African Colonies.
had attended the British Empire Forestry Conferences of
0 and 1923, and had at those meetings advocated the
nation of an Imperial Forestry Institute, at which forest

research work should be carried out and post-graduate courses given, as also refresher courses to men home on leave, especially from the Colonies. The Institute came into being in 1921 with Oxford as its home, and Troup was appointed the first Director. He therefore found himself not only supervising and lecturing at the Forest School, but also bringing into being a new Forest Research Centre, combined with post-graduate education. That he was successful in this new undertaking there can be no doubt, but the success would have been greater, and the benefits more far reaching, had the Government Body found means of raising more financial assistance. Troup continued to direct both School and Institute until 1936, by which time the combined work had increased so much that some measure of relief was necessary, and though Troup remained in administrative control, a separate Director was appointed to supervise the working of the Institute.

Troup had an essentially ordered mind, and to a marked degree the faculty of collecting and co-ordinating information and data, which he could convey to his readers in concise terms. He was also a keen observer, and on his many tours through the forests of India and Burma he kept careful notes of his observations and impressions, with a view to preparing a treatise on Indian silviculture. Owing to the wide and varying types of forests found in British India, such as evergreen, moist and dry deciduous, dry zone types such as those found in Sind, or again the conifer and oak forests of the Himalayas, Troup decided in the first instance to restrict his work, entitled 'Silviculture of Indian Trees', to dealing with the most important species only. This monumental work, which is profusely illustrated, chiefly with his own photographs, was published in 1921, and is to this day the standard work on the subject.

In 1928 he published his treatise on Silvicultural Systems, a work which not only attracted much attention at Home and in the Empire, but which gained him much praise from Continental foresters.

The question of State Control of private forests has always been a difficult problem, and though while in nearly all countries of Europe, where forests are of national importance, either partial or nearly complete State Control is in force, in England no control is exercised, other than the present war measures. A considerable amount of support to Government Control of Private forests exists in this country not only from forest officers, but also from landlords with forest interests. In 1938 Troup published a book entitled 'Forest and State Control', which reviews the existing conditions on the Continent and summarizes his ideas and observations on necessary measures which might be beneficial in Great Britain. It was a well-timed publication, and assisted to clear up many

able points and much confused thinking. He produced several other works, including some on Utilization. At the time of his death he was engaged on a work on Colonial Forest Administration, which is in the press.

For his work in connection with Colonial forestry, Troup made a Companion of St. Michael and St. George in 1934, and for his services to scientific forestry he was elected a Fellow of the Royal Society in 1936, a high honour only paid to three or four forest officers in the past.

R. S. PEARSON.

ALBERT HOWARD TROW, Fellow of the Society since 1898, a native of Montgomeryshire, of mixed Welsh and English descent, and though not a Welsh speaker, he always considered himself a thorough Welshman. His early education was at Normal College, Bangor, then newly established, from which he went to the University College, Aberystwyth. After graduating as a London B.Sc. with Honours in Botany (for a time before the days of the University of Wales), Trow followed the fashion of the time among young scientists, and went for a period to Germany, to Freiburg in Breisgau.

He was a quick and confident student, relying very much on his own initiative rather than on his teachers, and though while in Freiburg he must have seen and assimilated much that was novel, he did not bring away any vivid impression of the men who taught there.

In the early 'nineties he was appointed Lecturer in Botany in University College, Cardiff. Botany was then included in a Department of Biology, under a zoologist, the late Professor W. T. Parker, and for some time Trow was a junior member of the staff. Then in 1893 the College erected a separate Department of Botany, and Trow was promoted to be the first Professor. This post he held until 1919, when, after a brief spell as Acting Principal, he was made Principal, in succession to Dr. E. H. Griffiths. He retired in 1929.

Dr. Trow was rather an isolated man, with few intimate friends. It is difficult to call him lonely, for he did not appear to feel the lack of companionship. As an administrator he perhaps felt it best to keep himself free from personal contacts, and it is certain that his conduct of affairs was marked by unflinching impartiality and fair play. Always a fighter by instinct he took a leading part in many educational and scientific controversies, the most important of which was, perhaps, that which led to the founding of the Welsh National School of Medicine.

Gardening was a passion with him, and it was in his garden at Penarth that he spent nearly the whole of his years of retirement. In his more active days he had been a great rock-climber and he had done many notable climbs in the mountains and at home.

Dr. Trow was a hard worker and his botanical interests were varied. The earliest work was on *Saprolegnia*, about the fertilization of which he had a controversy with Marc Hartog, and had eventually the better of the argument. Several papers in the early volumes of the 'Annals of Botany' were the outcome of this work. But his most comprehensive researches were in Genetics, notably the working out of the genetic constitution of the many forms of *Senecio vulgaris*. This was the outcome of his keen interest in field Botany. He was an enthusiastic collector and amassed an excellent British herbarium for his Department. He also undertook the editorship of the 'Flora of Glamorgan', published by the Cardiff Naturalists' Society. It had always been Trow's intention to follow this up with an ecological Flora of Wales, but this never came to fruition.

He will always be remembered in Cardiff for his bold and indomitable spirit, which scorned difficulties, and which was the expression of his great physical strength and vigour. His sudden death at the comparatively early age of seventy-seven came as a great shock to all his friends.

His portrait, by Harold Knight, one of the most vivid likenesses imaginable of any man, hangs in the Council Chamber of University College, Cardiff, the institution which he did so much to strengthen.

R. C. McLEAN.

FRED TURNER, who died at Chatswood, near Sydney, N.S.W. on 17 October 1939, was born at Pontefract, Yorks, in 1865. As a young man of twenty-two he joined the staff of the Brisbane Botanic Gardens. He travelled widely, and collected assiduously for the Herbarium.

Later, he was employed in the lay-out of various public gardens in Brisbane and Sydney. In 1890 he was appointed Economic Botanist to the newly-formed Department of Agriculture of New South Wales. His extensive knowledge of the inland districts had aroused in him an almost passionate interest in the indigenous grasses, saltbushes, and other plants of value to the pastoral industry.

He published several books and papers of a semi-popular nature, of which the best known are 'The Forage Plants of Australia' and 'Australian Grasses'.

Long after his retirement he served on the staff of a Sydney weekly paper with wide circulation in the country districts as their horticultural and botanical correspondent.

His death, at the advanced age of eighty-seven, removed the last link with the great collecting days under pioneering conditions of the Australian Herbaria, begun by von Mueller and continued by Manson Bailey in Brisbane and Maiden Sydney.

T. G. B. OSBOEN.

MAS WILLIAM WOODHEAD will probably occupy a definite place in biological history for three main reasons. Principally an ecologist, he was the first in Britain to carry out intensive studies both of vegetation and of the component plants, and, striving for the advance in methods which has subsequently developed, his work on the Pennine woodlands is almost a model of the planning and execution of such a study. The outstanding feature of his work appeared at a much later stage when he turned his attention to the Yorkshire moorlands, and particularly to the question of their history and development. It was also, in his recognition of the fact that he was dealing with a post-glacial plant succession, and his emphasis on the need for archaeological evidence to establish the chronology of the peat remains, he broke new ground in Britain. The outstanding feature of his work embodied the other two, and may be expected to prove to have the most lasting effect. To Woodhead ecology was less a subject than a general method of approach to both scientific and practical problems. It was natural for him to see geographical and economic problems as part of the general relation of man to his habitat. This wide outlook made him one of the original exponents of regional ecology, and led finally to the creation of the Tolson Memorial Museum, at Ravensknowle, near Huddersfield, a museum which is wholly organized to show the inter-relations between geology, soils, vegetation and animals, with the resultant effects upon human activities and history in the Huddersfield district. This remarkable museum is less generally known than it deserves to be. Its quality may be estimated from the opinion of Sir Henry Miers, who at the time had seen every museum in Great Britain. He described it as the best local museum in the country, and paid a remarkable tribute to the quality and persistence Woodhead had shown in its creation. The Tolson Museum is indeed the best memorial of Woodhead's work, and it is to be hoped that his creation will be maintained and developed in the difficult years to come.

Woodhead's reputation, however, was based less upon his work than upon his personality. His work reflects the painstaking thoroughness of the man and a pertinacity, characteristic, no doubt, of his Yorkshire upbringing. But he was both kindly and generous, and never failed to appreciate the arguments of others. Indeed, the remarkable feature of his character was the manner in which he would preface a request for advice by a scrupulous and exact statement of the arguments against the course of action he might be considering. This essentially judicial habit of mind gave Woodhead's decisions an immense weight among his associates, and many instances might be given in illustration of this. Thus, when somewhat expensive natural history collections were offered for sale to his native town, the only argument

considered in deciding on their purchase was that Woodhead thought that they were worth buying, a remarkable tribute from a community of hard headed business men.

Woodhead was born at Holmfirth, near Huddersfield, 1863, and came from a family which had journalistic interest; one uncle in particular, Joseph Woodhead, founded and edited the chief Huddersfield paper. In his youth, Woodhead was engaged in the woollen industry, at first as a half-timer and later upon an office staff. The part of his education that mattered, he obtained by attending classes in natural history and chemistry at the Huddersfield Mechanics' Institute, and perhaps also in the field in company with some members of the Huddersfield Naturalists' Society as Spencer and Charles Crossland. At the age of twenty-eight he became a teacher of Botany and Zoology for evening classes in Huddersfield Technical College, and two years later he became full-time teacher in the college. The courage of the man is best realized when it is stated that this step reduced his salary to less than half, and it also threw over the certainty of a reasonable success in business for a very problematic future in biology. However, he continued to extend his training whenever opportunity offered at Bonn, Cambridge, Leeds, and particularly Zürich, of which he became a Professor. Of his wide circle of academic friends and acquaintances, Carl Schröter influenced him more than any other. He became a Fellow of the Linnean Society in 1899, and he was an original member of the British Vegetation Committee, the British Ecological Society and the Freshwater Biological Society, of which last was a member of Council. He was President of the Ecological Society in 1926 and 1927. There can hardly have been anyone who was more representative of the Yorkshire Naturalists' Union, either at its meetings, on its Executive Committee as President (1922) or as joint Editor of the 'Naturalist' (1903-30). It was especially fitting that when, in 1915, the University of Leeds conferred on him the Honorary degree of M.Sc. for work in connection with natural history in the north of England the award should particularly refer to his connection with the Yorkshire Naturalists' Union. All these activities did not prevent him from being active in municipal affairs, and for many years a member of the Borough Council. Here as a member of the Waterworks and the Library and Museum Committees he rendered yeoman service. His civic interests were continued in his last publication, dealing with the history and development of the Huddersfield water supply. Failure of health prevented this from dealing also, as he had hoped, with the biological and scientific problems of the Pennine waters.

W. H. PEARSALL

BENEFACTIONS

in accordance with Bye-Laws, Chap. XVII. Sect. 1, of all Donations of the amount or value of Twenty pounds and upwards, received during the past Twenty years.

1921

Percy Sladen Memorial Fund: Additional Grant in aid of publication of 'Transactions', 2nd ser., Zoology, vol. xvii, part 4, £72 10s.

same: Grant in aid of publication of four papers on the Houtman Abrolhos Islands, £100.

Royal Society: Donation in aid of papers by Mr. N. E. Brown and Mr. S. L. Moore, £90.

W. Rushton Parker: Donation of a large series of portraits of Naturalists and Persons after whom Genera have been named, and work on rearrangement and annotation of the entire collection.

C. S. Sargent, F.M.L.S.: Eight volumes issued by the Arnold Arboretum including 'The Bradley Bibliography'.

B. Daydon Jackson: MS. Catalogue of each sheet in the Linnaean Herbarium; bound in two volumes folio.

1922

late Sir Joseph Hooker: Donation of his Medals and Decorations. (Reversion to Linnean Society on Lady Hooker's decease.)

Anonymous donation in aid of publication of the late Dr. E. A. Newell Arber's paper, entitled 'Critical Studies of Coal-Measure Plant-impressions', £60.

Percy Sladen Memorial Fund: Cost of printing and illustrating 'Transactions', 2nd ser., Zoology, vol. xviii, part 1.

1923

W. Rushton Parker: (1) Donation of Oxford New English Dictionary; vols. i-x, 1888-1928, and Supplement, 1933, 4to. (2) Encyclopaedia Britannica: ed. XI, Cambridge, 1920-2. 32 vols. 4to.

E. Heron-Allen, F.R.S.: Contribution of £25 towards the cost of paper on the Foraminifera of Lord Howe Island.

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1924

The Percy Sladen Memorial Fund: Cost of printing and illustrating 'Transactions', 2nd ser., Zoology, vol. xv, part 2.

1925

Mr. Reginald Cory: New Presidential Chair, emblazoned with the Arms of the Society.

1926

Subscription portrait of Dr. B. D. Jackson, R.N.O.

Mr. A. D. Michael: A large number of Books and Pamphlets from his Library.

The late Mr. A. O. Walker: £200 free of Legacy Duty.

An Anonymous Donor: £100 to establish a Fellowship in memory of the late Prof. E. A. Minchin, F.R.Sec.L.S.

The Royal Society: Donation in aid of publication of Mr. G. P. Farran's paper on Biscayan Plankton.—Part The Copepoda, £60.

The late Mr. Frank Morey: £100 free of Legacy Duty.

The late Mr. George Lewis: Books and pamphlets on Entomological subjects.

Capt. E. G. Spencer-Churchill: A copy of a collotype reproduction of 'The herbal of Apuleius Barbarus' (MS. Bodley 130).

The Percy Sladen Memorial Fund: Cost of printing and illustrating 'Transactions', 2nd ser., Zoology, vol. xv, part 1.

1927

The late Mrs. Mary Anne Stebbing: £100 less Legacy Duty.

1928

Carnegie United Kingdom Trust: £666 13s. 4d. for purchase of books.

The Royal Society: £160 (£85 in aid of the publication of Dr. G. Enderlein's paper on 'Die Copeognathiden der Seychellen', £75 in aid of Mr. C. V. B. Marquand's paper on 'The Botanical Collections made by Capt. Kingdon Ward in the Eastern Himalaya and Tibet in 1924-5').

1929

Legie United Kingdom Trust: £666 13s. 4d. for purchase of books.

Percy Sladen Memorial Fund: £100 in aid of the publication of papers on the Fauna of the Paraguayan Chaco.

Legie Trust for the Universities of Scotland: £28 in aid of the publication of papers on the Fauna of the Paraguayan Chaco.

1930

Legie United Kingdom Trust: £666 13s. 4d. for purchase of books.

Anonymous Donor: £23 towards the purchase of an Epidiascope.

Royal Society: £100 in aid of the publication of Mr. H. W. Pugsley's paper, 'A revision of the British *Euphrasiae*' and Dr. T. A. Sprague's paper, 'The Herbal of Leonhart Fuchs'.

B. Daydon Jackson (the late): valuable reversion under her Will after three life-tenants shall have died.

B. B. Woodward (the late) and Mr. A. S. Kennard: a portion of Mr. Woodward's scientific library and reversion of the remainder.

1931

E. C. Hatchett Jackson: Bust of Charles Hatchett, F.L.S., by Chantrey.

Major Vivian Seymer: Volumes from the Library of Henry Seymer.

E. J. Bles: Donation in aid of colour collotype plates to illustrate Dr. Karl Peter's paper on *Xenopus laevis*, £100.

Francis Pierrepont Barnard: Bequest of Sir James E. Smith's seal, his collection of seal impressions, and some portraits.

Percy Sladen Memorial Fund: Cost of printing and illustrating 'Transactions', 2nd ser., Zoology, vol. xix, part 2.

1932

Francis Druce: Donation towards the cost of new books, £50.

Royal Society: Donation in aid of the publication of papers resulting from Dr. Worthington's Expedition to the East African Lakes, £75.

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Subscription portrait of the late Professor Julius von Sack F.M.L.S.

Cambridge Expedition to the East African Lakes, 1936-40 (Dr. E. B. Worthington, leader).—Unexpended balance of expedition funds, for the publication of the scientific results, £175.

Carnegie Institution of Washington: Donation of a considerable number of its publications.

1933

The Royal Society: Donation in aid of the publication of Dr. H. Boschma's paper, 'The Rhizocephala in the collection of the British Museum', £60.

The Percy Sladen Memorial Fund: Cost of printing and illustrating 'Transactions', 2nd ser., Zoology, vol. XI, part 3.

1934

Mr. Francis Druce: Certain legal expenses connected with the Society's interest in the Will of the late Mrs. James Jackson, £33 14s.

Mr. Warren R. Dawson, F.R.S.E.: Compilation of 'Catalogue of the Manuscripts in the Library of the Linnean Society of London.—Part 1. The Smith Papers'; and cost of binding the additional series of correspondence, etc.

The Royal Society: Donation in aid of the publication of Dr. G. S. Carter's paper, 'The fresh waters of the rain forest areas of British Guiana', and Mr. H. N. Dixon's paper, 'A contribution to the Moss flora of Borneo', £8.

The Misses Phipps Tiarks: Copy of portrait of N. B. Ward, F.R.S., F.L.S., by an unknown artist; engraving after Knight's portrait; drawing of Ward's conservatory; and his 'Pitt Club' medal.

1935

The Royal Society: Donation in aid of the publication of Mr. W. T. Stearn's paper, '*Epimedium* and *Vancouveria*: a monograph', and Dr. F. K. Sparrow's paper, 'A contribution to our knowledge of the Aquatic Phycomycetes of Great Britain'. £150.

1936

The Trustees of the Will of Herbert Spencer, deceased: £1241 in payment of bequest.

- the Royal Society: Donation in aid of the publication of Mr. W. R. Philipson's paper, 'A revision of the British species of the genus *Agrostis* Linn.' and Dr. E. Fischer-Piette's paper, 'Études sur la biogéographie intercotidale des deux rives de la Manche', £180.
- the late Lord Wakehurst of Ardingly: £100 free of Legacy Duty.

1937

- of. F. E. Weiss, F.R.S.: Zeitschrift für induktive Abstammungs- und Vererbungslehre, Bande 67-73, 1934-37.
- the Royal Society: Donation in aid of the publication of Dr. T. A. and Miss Sprague's paper, 'The herbal of Valerius Cordus', £20.

1938

- the late Mr. E. T. Browne: A portion of his scientific library.
- Francis Druce: The expenses of the Society's 150th Anniversary Celebrations, £197 10s.
- the Royal Society: Donation in aid of the publication of Dr. M. Carleton's paper, 'The biology of *Pontania proxima* Lep., the Bean Gall Sawfly of Willows', and Mr. I. Mackenzie Lamb's paper, 'A review of the genus *Neuropogon* (Nees et Flot.) Nyl., with special reference to the Antarctic species', £200.

1939

- the Royal Society: Donation in aid of publications, £200.
- the Percy Sladen Memorial Fund: cost of printing and illustrating 'Transactions', 3rd ser. vol. 1, part 1.

1940

- the late Major J. R. G. Gwatkin: An extensive collection of paintings of flowering plants, mainly British.
- the Royal Society: Donation in aid of publications, £100.

TREASURER'S ACCOUNTS FOR THE

(Presented at the Anniversary

Receipts and Payments of the Linnean Society

	RECEIPTS	£	s.	d.	£	s.
To Balance at 1 May 1939—at Bank		872	15	0		
„ „ „ „ „ —in hand		8	4	11		
„ „ „ „ „ —Herbert Spencer Fund (on Deposit)		271	4	9		
					1152	4
„ Admission Fees					24	0
„ Arrears of Annual Contributions		28	0	0		
„ Annual Contributions for year		2318	10	3		
Do. in advance		72	3	7		
					2418	13
„ Composition Fees					58	0
„ Interest on Investments (including Income Tax recovered)					318	12
Do. Deposit					3	16
Do. Post Office Savings Bank Account					35	12
„ Sales of Publications:—						
Transactions		7	3	1		
Journals		92	16	6		
Proceedings		6	11	0		
Catalogue of Manuscripts		1	5	0		
History of the Society		16	3			
Miscellaneous		4	7			
					108	16
„ Donations in aid of Publications					200	0
„ Donation for General Purposes					1	0
„ Miscellaneous Receipts					21	3
„ Emergency Fund: Amount transferred from Separate Account					15	13
					£4352	13

	RECEIPTS	£	s.
To Balance 1 May 1939		11	13
„ Interest on Investments (including Income Tax recovered)		50	8
„ Transferred from General Account		550	0
„ Sales		2	4
		£614	7

	Fellows Postage	£	s.	d.
To Balance at 1 May 1939		51	15	1
„ Deposits during year		1	4	0
		£52	19	1

YEAR ENDED 30 APRIL 1940.

Meeting, 24 May 1940.)

from 1 May 1939 to 30 April 1940.

Account

PAYMENTS	£	s.	d.	£	s.	d.
Coal, Electric Current, and Gas.....				63	19	11
Furniture.....				30	8	3
Repairs: Sundry					3	0
Taxes and Insurance				57	12	5
Miscellaneous Printing and Stationery.....				128	9	6
Petty Expenses (including Tea and Postage)				133	0	2
Publications:—						
Printing	761	2	4			
Illustrations.....	100	0	0			
Distribution.....	36	11	2			
				897	13	6
Salaries and Wages, etc.				1068	12	8
Transferred to Library Account				550	0	0
Freshwater Biological Association Donation				5	5	0
Staff Pension Fund:—						
Purchase of £100 0s. 0d. 3 per cent. War Stock 1955-59				100	0	0
Purchase of £60 16s. 5d. 3½ per cent. War Stock (Investment of Composition Fee)				58	0	0
Purchase of £200 3 per cent. War Stock 1955-59				200	0	0
Linnean Medal				16	5	6
Emergency Fund.....				67	15	11
Balance at 30 April 1940:—						
Current Account at Bank.....	69	2	7			
Deposit Account Post Office Savings Bank	628	15	3			
Deposit Account Post Office Savings Bank (Herbert Spencer Bequest)..	271	4	9			
Cash in hand	6	4	10			
				975	7	5
				£4352	13	3

Account

PAYMENTS	£	s.	d.
y Books	16	8	1
Periodicals.....	184	1	7
Binding	145	16	0
Balance at 30 April 1940	268	1	9
	£614	7	5

Account

	£	s.	d.
y Postage during year.....	1	19	8
Balance at 30 April 1940	51	0	3
	£52	19	11

1000	0	0	Metropolitan 3 per cent. Stock	984	0	0
1200	0	0	India 3 per cent. Stock	985	0	0
1000	0	0	Eastern Bengal Railway 4 per cent. Irredeemable Debenture Stock	1045	7	2
1000	0	0	Great Western Railway 4 per cent. Debenture Stock	204	2	2
312	0	0	London Midland & Scottish Railway 4 per cent. Preference Stock	338	15	1
338	6	8	3½ per cent. War Stock	1020	0	0
1000	0	0	4½ per cent. Conversion Stock 1940-44	2298	18	7
2199	18	6	4 per cent. Australian Stock 1961-64	200	0	0
200	0	0	3 per cent. War Stock 1955-59	£8086	0	10

Library Account

£	s.	d.		£	s.	d.
450	0	0	North Bridge Railway 4 per cent. Stock (Bentham Bequest)	416	5	0
530	0	0	East Indian Railway 3½ per cent. Debenture Stock (Tagart Bequest)	474	7	0
88	9	8	London County 5 per cent. Stock 1940-60 (Stebbing Bequest)	89	7	4
103	12	5	Surrey County 3 per cent. Stock 1961-66 (Wakehurst Bequest)	93	96	7
191	12	7	4 per cent. Australian Stock 1961-64 (Walker & Morey Bequests)	200	5	1
				£1276	11	9

Separate Account

£	s.	d.		£	s.	d.
£1063	10	7	Metropolitan Water Board 3 per cent. "B" Stock (Westwood Bequest)	204	7	7
			Ditto	587	11	8
			Ditto	143	18	10
			New South Wales 3½ per cent. Stock, 1930-50 (Trail Award Fund)	97	10	0
			2½ per cent. Consolidated Stock (Crisp Award Fund)	305	2	5
£315	4	5	India 3½ per cent. Stock 1931 (Westwood Fund)	123	1	0
			Ditto	58	16	1
			Ditto	117	12	1
			Ditto	101	0	0
			London County 5 per cent. (Minchin Fellowship Fund)	1536	6	0
			3½ per cent. Conversion Stock (Staff Pension Fund)	100	0	0
			3 per cent. War Stock 1955-59 (Staff Pension Fund)	£3375	5	8

FRANCIS DRUCE, *Treasurer.*

We have (in conjunction with the Professional Auditor, who certifies as to all details) audited the Accounts of the Society for the year ended 30 April 1940, and found them correct. We have verified the Investments and Bank Balances.

Dated this 16 May 1940.

W. B. KEEN, *Chartered Accountant,*
 23 Queen Victoria Street,
 London, E.C. 4.

J. RAMSBOTTOM,
 I. H. BURKILL,
 B. BARNES,
 D. J. SCOURFIELD,
 T. A. SPRAGUE,
 H. R. HEWER
Auditors.

ADDITIONS AND DONATIONS

TO THE

LIBRARY

1939-40

Note.—Names of donors are given in square brackets. Separate copies of papers which are included in periodicals received by the Library are no longer catalogued.

Arber, M. A. The relation of the valves to the pedicle in the Strophomenid Brachiopods. (Geol. Mag. vol. 77, 1940, pp. 161-174.) 8vo. [AUTHOR.]

Aubertin, D. *See* White, R. Senior.

Austen, E. E. *See* British Museum (Natural History). Economic Series, No. 1.

Baylis, H. A. The Fauna of British India. Nematoda. Vol. II (Filarioidea, Dioctophymoidea and Trichinelloidea.) Pp. xxviii+274. 8vo. London, 1939. [SECRETARY OF STATE FOR INDIA.]

Børgesen, F. Marine Algae from the Iranian Gulf, especially from the innermost part near Bushire and the Island Kharg. (Danish Sci. Invest. Iran, Part 1, 1939, pp. 47-141.) 8vo. [AUTHOR.]

Bristowe, W. S. The Comity of Spiders. Vol. 1. Pp. x+228. (Ray Society Publication.) 8vo. London, 1939.

British Museum (Natural History).

Great Barrier Reef Expedition, 1928-9. Scientific Reports.

Vol. 5, No. 6. Mollusca. Part 1. By TOM IREDALE. Pp. 209-426. 4to. London, 1939.

Vol. 6, No. 2. On *Phylactenachlamys lysiosquillina* Gen. and Sp. Nov., a Lamellibranch commensal in the burrows of *Lysiosquilla maculata*. By M. L. POPHAM. Pp. 61-84. 4to. London, 1939.

The John Murray Expedition, 1933-4. Scientific Reports. 4to. London, 1939-40.

Vol. 2, No. 3. Chemical and Physical Investigations. The general hydrography of the Red Sea. By E. F. THOMPSON. Pp. 83-103.

Vol. 2, No. 4. Chemical and Physical Investigations. The exchange of water between the Red Sea and the Gulf of Aden over the 'Sill'. By E. F. THOMPSON. Pp. 105-19.

Vol. 3, No. 2. The Marine Deposits of the Arabian Sea. By H. G. STUBBINGS. Pp. 31-158.

Vol. 3, No. 3. Stratification of Biological Remains in Marine Deposits. By H. G. STUBBINGS. Pp. 159-92.

Vol. 5, No. 8. The Euphausiacea and Mysidacea . . . By W. M. TATTERSALL. Pp. 203-46.

- Vol. 5, No. 9. Ascothoracica. By K. A. PYEFINCH. Pp. 247-62.
- Vol. 6, No. 1. Report on the Echinoidea... Part 1. By T. MORTENSEN. Pp. 1-28.
- Vol. 6, No. 2. Ophiuroidea. By H. L. CLARK. Pp. 29-136.
- Vol. 6, No. 3. Stomatopoda. By B. CHOPRA. Pp. 137-81.
- Vol. 6, No. 4. Crustacea: Caridea. By W. T. CALMAN. Pp. 183-224.
- Vol. 6, No. 5. A. Madreporaria, excluding Flabellidae and Turbinolidae. By J. STANLEY GARDINER and P. WAUGH. B. The Ecology of Solitary Corals. By J. STANLEY GARDINER. Pp. 225-50.
- Vol. 6, No. 6. Stomatopod Larvae. By G. E. H. FOXON. Pp. 251-66.
- Vol. 7, No. 1. Fishes. By J. R. NORMAN. Pp. 1-116.
- Ruwenzori Expedition, 1934-5. 4to. London, 1939-40.
- Vol. 1, No. 1. Introduction. Nos. 2/3. Simuliidae. By E. G. GIBBINS. Mosquitoes. By F. W. EDWARDS & E. G. GIBBINS. No. 4. Psychodidae. By A. L. TONNOIR. No. 5. Ceratopogonidae. By J. W. S. MACFIE.
- Vol. 2, Nos. 1/2. Stratiomyiidae. By E. LINDNER. Rhagionidae, Tabanidae, Asilidae, Bombyliidae. By H. OLDROYD. No. 3. Muscidae: Muscinae and Stomoxydinae. By FRITZ VAN EMDEN.
- Vol. 3, No. 1. Trichoptera. By M. E. MOSELY. No. 2. Siphonaptera. By K. JORDAN. No. 3. Rhopalocera. By A. G. GABRIEL. No. 4. Lymantriidae. By C. L. COLLINETTE. No. 5. Ephemeroptera and Neuroptera. By D. E. KIMMINS.
- Fossil Orthoptera Ensifera. By F. E. ZEUNER. Text & Plates. Pp. xiii+321; Pls. 80. 8vo. London, 1939.
- British Blood-sucking Flies. By F. W. EDWARDS, H. OLDROYD, & J. SMART. Pp. viii+156. 8vo. London, 1939.
- The Triassic Fishes of Besano, Lombardy. By JAMES BROUGH. Pp. ix+117. 4to. London, 1939.
- British Purbeck Charophyta. By T. M. HARRIS. Pp. ix+83. 8vo. London, 1939.
- Tertiary Siphonaceous Algae in the W. K. Parker Collection... By LUCIEN & JEAN MORELLET. Pp. ix+55. 8vo. London, 1939.
- Economic Series No. 1. The House-fly... By Major E. E. AUSTEN. Ed. 4. Revised by JOHN SMART. Pp. 25. 8vo. London, 1939.
- Linnaeus, Carl. Systema Naturae, a photographic facsimile of the first volume of the Tenth Edition (1758). Regnum Animale. Pp. 824. 8vo. London, 1939.
- [TRUSTEES, BRIT. MUS. (NAT. HIST.).]
- Brough, James. See British Museum (Natural History). The Triassic Fishes of Besano, Lombardy.
- Man, W. T. See British Museum (Natural History). The John Murray Expedition, 1933-4.
- Meron, Malcolm. The Fauna of British India. Coleoptera. Staphylinidae. Vol. IV. Parts 1 & 2. Pp. xviii+410; 411-691.
- Penter, G. D. Hale. Birds as enemies of butterflies, with special reference to Mimicry. (VII. Int. Kongr. Entom. 1938, pp. 1061-4.) 8vo. [AUTHOR.]
- Chopra, B. See British Museum (Natural History). The John Murray Expedition, 1933-4.
- Clark, H. L. See British Museum (Natural History). The John Murray Expedition, 1933-4.
- Collinette, C. L. See British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- Edwards, F. W. (1939-40).

- Crookall, R.** The Kidston Collection of Fossil Plants. With a account of the life and work of ROBERT KIDSTON. (Mem. Geol. Surv. Gt. Britain.) Pp. iii+34. 8vo. *London*, 1938. [AUTHOR]
- On Floral Subdivisions in the Yorkian Stage in South Wales (Geol. Mag. Vol. 75, 1938, pp. 346-52.) 8vo. [AUTHOR]
- The Plant 'Break' in the Carboniferous rocks of Great Britain (Bull. Geol. Surv. 1939, pp. 13-26.) 8vo. [AUTHOR]
- Deraniyagala, P. E. P.** The Tetrapod Reptiles of Ceylon. Vol. Testudinates and Crocodilians. Pp. xxxii+412. 8vo. *Colombo*, 1939. [AUTHOR]
- Discovery Reports.** Issued by the Discovery Committee, Colonial Office, London, on behalf of the Government of the Dependencies of the Falkland Islands. Vol. 1→ 4to. *Cambridge*. 1929→ [Continued :—]
- Vol. 19 (1938-40.)
- A Second Report on the Southern Sea Lion, *Otaria byronia* (de Blainville). By J. E. HAMILTON. Pp. 121-64.
- MacRobertson Land and Kemp Land, 1936. By G. W. RAYNE. With a report on Rock Specimens. By C. E. TILLEY. Pp. 165-84.
- Drake, Gustaf.** Linné's disputationer. Pp. 1-294. 8vo. *Nässjö*, 1938. [AUTHOR]
- Edwards, F. W.** See *British Museum (Natural History)*. British Blood-sucking Flies, & Ruwenzori Expedition, 1934-5.
- Emden, Fritz van.** See *British Museum (Natural History)*. Ruwenzori Expedition, 1934-5.
- Ernst, Alfred.** Erblichkeitsforschungen an calycanthemen Primeln ('Der Züchter', Vol. 8, 1936, pp. 281-324.) 4to. [Professor F. E. WEISS]
- Evans, A. H.** A Flora of Cambridgeshire. Pp. xii+228. 8vo. *London*, 1939.
- Foxon, G. E. H.** See *British Museum (Natural History)*. The John Murray Expedition, 1933-4.
- Fraser, G. T.** See *Martin, W. K.*
- Gabriel, A. G.** See *British Museum (Natural History)*. Ruwenzori Expedition, 1934-5.
- Gardiner, J. Stanley.** See *British Museum (Natural History)*. The John Murray Expedition, 1933-4.
- Gates, R. R.** Plant Genetics and human welfare. ('The Lancet', 1939, p. 1472.) 4to. [AUTHOR]
- Gibbins, E. G.** See *British Museum (Natural History)*. Ruwenzori Expedition, 1934-5.
- Gurney, R.** Bibliography of the Larvae of Decapod Crustacea. Pp. vi+123. (Ray Society Publication.) 8vo. *London*, 1939.
- Hamilton, J. E.** See *Discovery Reports*. Vol. 19.
- Hamm, A. H.** See *Richards, O. W.*
- Hanström, Bertil.** Hormones in Invertebrates. Pp. xii+198. 8vo. *Oxford*, 1939.
- Harris, T. M.** See *British Museum (Natural History)*. British Purbeor Charophyta.
- Helms, O.** Linné som Naturforsker og Laege. ('Naturens Verden', 1935, pp. 1-39.) 8vo. [Dr. HANS SCHLESCHER]
- Hooper, C. H.** Hive bees in relation to commercial fruit production (Journ. S.-E. Agric. Coll. 1939, pp. 103-8.) 8vo. [AUTHOR]
- Iredale, Tom.** See *British Museum (Natural History)*. Great Barrier Reef Expedition, 1928-9.
- Jordan, K.** See *British Museum (Natural History)*. Ruwenzori Expedition, 1934-5.
- Kidston, Robert.** See *Crookall, R.*

- hins, D. E. *See* British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- r, E. *See* British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- us, Carl. *See* British Museum (Natural History).
- R. N. Climate the controlling factor in the Tropics. (Journ. Afric. Soc. 1939, pp. 477-82.) 8vo. [AUTHOR.]
- e, J. W. S. *See* British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- n, W. K., & Fraser, G. T., *edited by*. Flora of Devon. Pp. xv+7. 8vo. *Arbroath*, 1939.
- a, W. Pflanzenbiologie. Ed. 2. Pp. viii+382. 8vo. *Leipzig*. 1936. [Professor F. E. WEISS.]
- let, L. & J. *See* British Museum (Natural History). Tertiary Rhonean Algae...
- ensen, T. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
- ly, M. E. *See* British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- e, S. A., *edited by*. Nomenclature Zoologica. A list of the Names of Genera and Subgenera in Zoology from the Tenth Edition of Linnaeus 1758 to the end of 1935. Vols. 1 & 2. 8vo. *London*, 1939-40.
- an, J. R. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
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- am, M. L. *See* British Museum (Natural History). Great Barrier Reef Expedition, 1928-9.
- er, Annie. The larval Trematoda found in certain South African mollusca. Pp. 492. (S. Afric. Inst. Med. Res. Publ. No. 42.) 8vo. *Johannesburg*, 1938. [AUTHOR.]
- nch, K. A. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
- sbottom, J. A Book of Roses. With sixteen coloured plates after the originals in Redouté's 'Roses'. Pp. 30+16 col. pls. 8vo. *Armondsworth*, 1939. [AUTHOR.]
- er, G. W. *See* Discovery Reports. Vol. 19.
- ards, O. W., & Hamm, A. H. The Biology of the British Pompilidae (Hymenoptera). (Trans. Soc. Brit. Entom. Vol. 6, 1939, pp. 51-114.) 8vo. [A. H. HAMM.]
- ley, The Lady. Some Canadian Wild Flowers. Pp. xi+107. 8vo. *London*, 1937. [AUTHOR.]
- nheim, P. European Species of the Genus *Fritillaria*. (Bull. Alpine Gard. Soc. Vol. 7, 19-39, pp. 1-15; 110-24.) 8vo. [AUTHOR.]
- rt, J. *See* White, R. Senior. *See* British Museum (Natural History). British Blood-sucking Flies, and Economic Series, No. 1.
- ings, H. G. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
- ersall, W. M. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
- mpson, E. F. *See* British Museum (Natural History). The John Murray Expedition, 1933-4.
- y, C. E. *See* Discovery Reports, Vol. 19.
- noir, A. L. *See* British Museum (Natural History). Ruwenzori Expedition, 1934-5.
- ksman, S. A. Humus. Ed. 2. 8vo. *London*, 1938.
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- Watson, J. G.** Mangrove Forests of the Malay Peninsula. (Malay Forest Records, No. 6.) Pp. viii+275. 8vo. *Singapore*, 1928. [I. H. BURKILL]
- Waugh, P.** See British Museum (Natural History). The John Murr Expedition, 1933-4.
- Wheeler, L. R.** Vitalism: its history and validity. Pp. xii+278. 8vo. *London*, 1939. [AUTHOR]
- White, R. Senior, Aubertin, D., & Smart, J.** The Fauna of British India. Diptera; Vol. 6. Family Calliphoridae. Pp. xiii+278. 8vo. *London*, 1940. [SECRETARY OF STATE FOR INDIA]
- Womersley, H.** Primitive Insects of South Australia. Pp. 322. 8vo. *Adelaide*, 1939. [AUTHOR]
- Zeuner, F. E.** See British Museum (Natural History). Fossil Orthoptera Ensifera

ASSOCIATION FOR THE STUDY OF SYSTEMATICS IN RELATION TO GENERAL BIOLOGY.

ANNUAL REPORT.—II. (1938-40).

first Annual Report of the Association was issued in September 1938, and was adopted at a General Meeting held on the fifteenth of that month.

At that Meeting a constitution for the Association was adopted; this has since been added to, and is now as follows:—Members: a Chairman, two Secretaries (Botanical and Zoological), and a Treasurer, these officers to be elected annually and to be eligible for re-election, except that the Chairman shall not serve for more than three consecutive years; a Council of twenty-four members, a third of which must retire annually in rotation, not more than two being eligible for re-election; Trustees to administer the Special Fund. The existing members and Council were then re-elected en bloc (see last Annual Report), with the addition of Professor Balfour Browne as Treasurer, if he consented to serve. Subsequently Professor J. Smart was elected Treasurer in his place, and Professor Balfour Browne was co-opted to the Council.

At the same meeting the Council was requested "to approach the Linnean Society with a view to considering the possibility of some form of affiliation, while preserving the title of the Association, and further to reconsider the question of the financial organization of the Association".

Acting on these requests, the Council reached an agreement with the Linnean Society whereby the Association enters into a loose affiliation with the Society for a term of three years, the arrangement being terminable prior to that date desired by either party, at three months' notice. The Society undertakes to set aside one or more meetings at which members of the Association may attend for the joint discussion of scientific matters of interest to both bodies, to permit the Association to use its rooms for recognized meetings, to publish the Annual Report of the Association in its Proceedings, and to regard scientific papers submitted by the Association for publication as having been recommended and referred; clerical work for the Association will also be undertaken. The Association will bear the expenses incurred in the publication of the Annual Report and for the clerical work.

With regard to financial organization the Council recommended that the minimum subscription for membership of the Association shall be 5/- per annum for three years, and that the financial position be then reviewed. Donations of £5 and upwards, made during this three-year period, will confer Foundation Membership, and monies derived from this source will be placed in a special fund.

SESS. (1939-40).

The agreement with the Linnean Society and the Council financial proposals were both ratified by unanimous vote at a Special General Meeting held on 3 May 1939. At the same meeting it was agreed that the Association's year shall correspond with that of the Linnean Society.

During the summer of last year a leaflet was circulated to existing members and others outlining the work and aims of the Association, and appealing for members at the new subscription rates. The response was rather disappointing, partly owing to the outbreak of war in September, and on 15 May 1940, there were eleven Founder Members and seventy-nine Ordinary Members (see Treasurer's Report). Further circularization is being undertaken.

The activities of the Association during the period covered by this Report have naturally been restricted by the war. At a Council meeting on 14 December 1939, it was decided to carry on the existing activities as far as possible and, though new commitments have been reduced to a minimum, several existing pieces of work have been completed.

The *Taxonomic Principles Committee* has continued its discussions, and at a meeting in June 1939 a memorandum on Phylogeny and Classification, prepared by a section of the Committee, together with comments thereon by other members was fully discussed. It was agreed (1) that phylogeny should be defined as 'the historical sequence by which groups of organisms have come into existence', and (2) that, while one could not say that classification should be 'based on phylogeny, classification could and should be 'interpreted phylogenetically'. A long discussion on the relationship between a 'logically natural' and a 'phylogenetic' classification produced inconclusive results. A memorandum has been prepared and will be circulated.

The Committee on *Comparative Systematics* has continued its collection of data, but there are no special activities to report.

Research work initiated or assisted by the Research Committee has been continued. At the moment work is proceeding in connection with the following:—

- (1) Genetics of *Cytisus scoparius* var. *prostratus*.
- (2) Cytology of genera of Ericaceae.
- (3) Distribution of *Ranunculus Ficaria* varieties.
- (4) Systematics and ecological study of British wood-lice.
- (5) Genetics, ecology, and cytology of *Spergula arvensis*.
- (6) Chalk-grassland ecotypes (preliminary accounts published).
- (7) Continental distribution of the eastern elements of the British Flora.
- (8) Distribution of *Narcissus* in England.

- 9) Genetical and ecological studies on *Viola* and *Primula*.
- 0) Continued work on genetics of *Silene*, *Centaurea*, *Ranunculus*, and *Saxifraga*. (Continuation of published series of papers.)
- 1) Variation of *Sedum acre* in relation to habitat.
- 2) Apomicts in *Taraxacum* and their distribution (three papers already published).
- 3) Host distribution of Ichneumons.
- 4) A Distributional Survey of British Reptiles and Amphibians.

Work on the preparation of a new book on 'The Anatomy of the Dicotyledons' is proceeding steadily under the editorship of Dr. Chalk and Dr. Metcalfe.

The Committee dealing with *Handbooks* has to report that the list of existing taxonomic literature concerning the British Fauna and Flora has been completed. This list is designed to assist biologists in the identification of their material by providing a complete list of works which must be consulted to obtain accurate taxonomic information. It will form a small volume of about 100 demy octavo pages and has been accepted for publication by the Trustees of the British Museum. Under circumstances permit, its appearance in the near future at a reasonable price may be expected.

The work of the Natural History Societies has been seriously impaired, but they have rendered considerable and valuable assistance in connection with some of the research problems mentioned above, and this assistance is being continued.

Dislocation of normal conditions has affected all the other Committees to a regrettable extent, but the stimulation of discussions on matters of taxonomic interest has proceeded, and since the last annual report the following formal discussions were either arranged, or assisted, by the Association:—

- 1) 'The Reciprocal Relationships of Ecology and Taxonomy', at the Ecological Society in January 1939.
- 2) 'Subspecies and Varieties', at the Linnean Society in April 1939 (Proc. Linn. Soc. April 1939, pp. 89-114).
- 3) 'Phylogeny and Taxonomy' at the Linnean Society in April 1940 (Proc. Linn. Soc. (in press)).

In addition, at the suggestion of the Association, a section entitled 'Genetics in Relation to Evolution and Taxonomy' was set up at the International Genetical Congress in Edinburgh August 1939, and an account of its proceedings will be found in 'Kew Bulletin', 1939, p. 500.

The series of essays edited by Dr. Huxley under the title 'The New Systematics' which outlines some of the many problems with which the Association is concerned has been published by the Clarendon Press, Oxford, and is now available in paperback (1939-40).

to members at the reduced price mentioned in the leaflets which have been distributed to them.

The Merton Catalogue of the Chromosome numbers British Plants by Miss P. Maude, mentioned in the last Annual Report, has been published as a 'New Phytologist' reprint.

At the International Genetical Congress at Edinburgh the possibility was discussed of issuing a mimeographed *Bulletin* giving lists of the more important papers in zoological and botanical systematics which would interest workers in cytogenetics, ecology, and other branches of biology, and *vice versa*, together with notes and queries, notes on methods, etc. It was suggested that the Association should undertake the work, but this proved impossible owing to the outbreak of war.

While in the United States the Chairman, Dr. Huxley, discussed the project with various biologists with the result that the 'Association for Speciation' has been formed and will issue a bulletin on these lines. Professor A. E. Emerson of the University of Chicago, is undertaking the work, with the aid of strong local and general committees. Members have been asked to co-operate.

J. S. L. GILMOUR, } *Hon. Secretaries.*
H. W. PARKER, }

Treasurer's Statement. For the year 1939-40.

The balance was struck on 15 May 1940. On that date there was a credit balance on the Association's account with the Westminster Bank of £114 3s. 10d. with an outstanding debt to the Association from Mr. Biswas of 11s. 9d. for a copy of the 'New Systematics', and an outstanding debt to the Clarendon Press, Oxford, from the Association of 16s. 3d. for a copy of the 'New Systematics'.

The balance of £114 3s. 10d. is made up of the following items:—

	£	s.	d.
i. Special Fund (Founder Members' donations, etc.)	87	0	0
ii. Subscriptions paid in advance for 1940-1	7	15	0
iii. Subscriptions paid in advance for 1941-2	7	0	0
iv. Subscriptions paid in advance for 1943-3	10	0	
v. Credit Balance on the year 1939-40	11	18	10
	<u>£114</u>	<u>3</u>	<u>10</u>

The expenses for the period amounted to £37 1s. 7d., but this included a bill of £23 10s. 7d. to the Clarendon Press, Oxford, for copies of the 'New Systematics' which was of course, met by receipts from members to whom these copies

e supplied. The expenses of running the Association for year have therefore amounted to £13 11s. 0d.

receipts from all sources, including payments for copies of the 'New Systematics', have amounted to £151 5s. 5d.

Membership.—On 29 May there were eleven Founder members and seventy-nine ordinary members.

Balance Sheet. As at 15 May 1940 :—

RECEIPTS.	£	s.	d.	EXPENSES.	£	s.	d.
and	87	0	0	General expenses	13	11	0
ons etc. for 1939-				To Clarendon Press, Ox-			
deficit on 'New				ford 'New Systematics'			
tics' acc. with				Acc. (as per ledger acc.).	23	10	7
on Press, Ox-							
.....	25	9	10				
ons for 1940-1..	7	15	0	By Balance at Westmin-	37	1	7
ons for 1941-2..	7	0	0	ster Bank	114	3	10
ons for 1942-3..	10	0					
ematics' Acc.:							
l .. 22 13 3							
n							
swas 11 9							
.... 5 7							
	23	10	7				
	£151	5	5		£151	5	5

The Association has since received a donation to cover this deficit. This item includes the sum of 16s. 3d. paid by a member for a copy of the 'New Systematics' for which the O.P. s bill had not been received at the time of taking the balance.

JOHN SMART,
Hon. Treasurer.

1 May 1940.

British Museum (Natural History),
Cromwell Road, S.W. 7.

examined and found Correct,
N. D. RILEY.

29 May 1940.

4 4 1912

[Part 4, pp. 349-403, published 19 May 1941.]